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Vincent G. Kerrio
Minister

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by T.R. Carter

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Cover: Examining bedrock exposures in the Bruce Peninsula. Photo by T.R. Carter.

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Oil and Gas Exploration, Drilling and Production Summary, 1986

by T.R. Carter

Petroleum Resources Section, Ontario Ministry of Natural Resources, London.

Introduction

Information contained within this report has been compiled from records submitted to the Petroleum Resources Section by licensed operators in compliance with the Petroleum Resources Act, R.S.O. 1980. Unless otherwise stated, all statistics and information reported are for the 1986 calendar year. Publication of annual reports are delayed one year due to the confidential status of exploratory well data incorporated within this report.

ACKNOWLEDGEMENTS

The following people provided invaluable aid in the compilation of the data and information contained in this report: M. Campbell, K. McLeod, D. Parker, R. Rybansky, B. Davidson and H. Wright. Figures were drafted by I. Cameron.

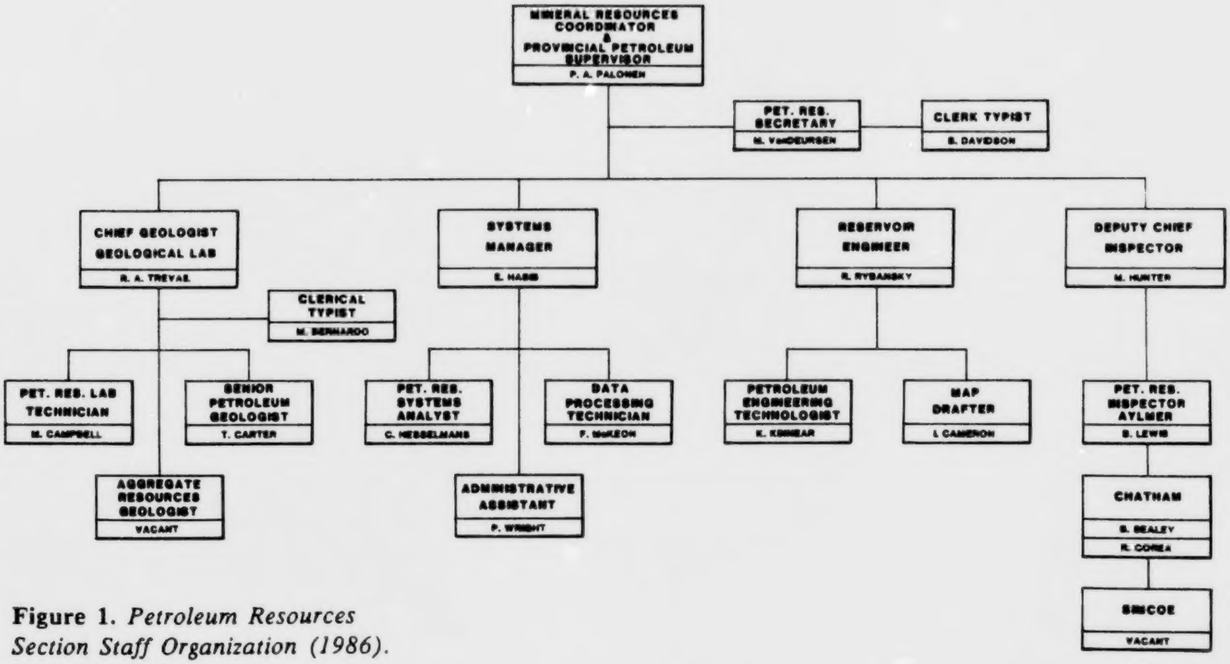
I. Section Organization

The Petroleum Resources Section of the Ministry of Natural Resources operates under the authority of the Petroleum Resources Act, R.S.O. 1980. The Section enforces the regulations made under the Act, namely Regulation 752 – Exploration, Drilling and Production. The Section also administers Regulation 633 – Exploratory Licences and Leases for Oil and Natural Gas North of the Fifty–First Parallel of Latitude and Regulation 634 – Exploratory Licences and Production Leases for Natural Gas in Lake Erie, both made under the Mining Act. The Section is responsible for all matters related to the disposition of Crown owned rights as well as the regulation of the exploration, development, and production phases of the petroleum industry. It provides operational, geological/engineering, inspection, core and drill cuttings samples storage and cataloguing services for the oil and gas industry together with laboratory, computer, and research facilities.

Administration and engineering offices are located at 659 Exeter Road, London, Ontario. Key staff within the Petroleum Resources Section at that time are shown in Figure 1. Geological offices and sample repository facilities, known as the Petroleum Resources Laboratory, are located in a separate building at the same address. Inspection staff operate from the various Regional and District offices throughout the Province as shown in Figure 2.

1. ACTIVITIES PETROLEUM RESOURCES LABORATORY

The principal function of the Petroleum Resources Laboratory is to catalogue and store all subsurface geological samples consisting of drill cuttings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M. VanDEURSEN
CLERK TYPIST
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R. A. TREVAIL
CLERICAL TYPIST
M. BERNARDO
PET. RES. LAB TECHNICIAN
M. CAMPBELL
SENIOR PETROLEUM GEOLOGIST
T. CARTER
AGGREGATE RESOURCES GEOLOGIST
VACANT
SYSTEMS MANAGER
S. HABIB
PET. RES. SYSTEMS ANALYST
C. HESSELMANS
DATA PROCESSING TECHNICIAN
F. McKEON
ADMINISTRATIVE ASSISTANT
P. WRIGHT
RESERVOIR ENGINEER
R. RYBANSKY
PETROLEUM ENGINEERING TECHNOLOGIST
K. KINNEAR
MAP DRAFTER
I. CAMERON
DEPUTY CHIEF INSPECTOR
M. HUNTER
PET. RES. INSPECTOR AYLMER
B. LEWIS
CHATHAM
G. SEALEY
R. COREA
SIMCOE
VACANT

Figure 1. *Petroleum Resources Section Staff Organization (1986).*

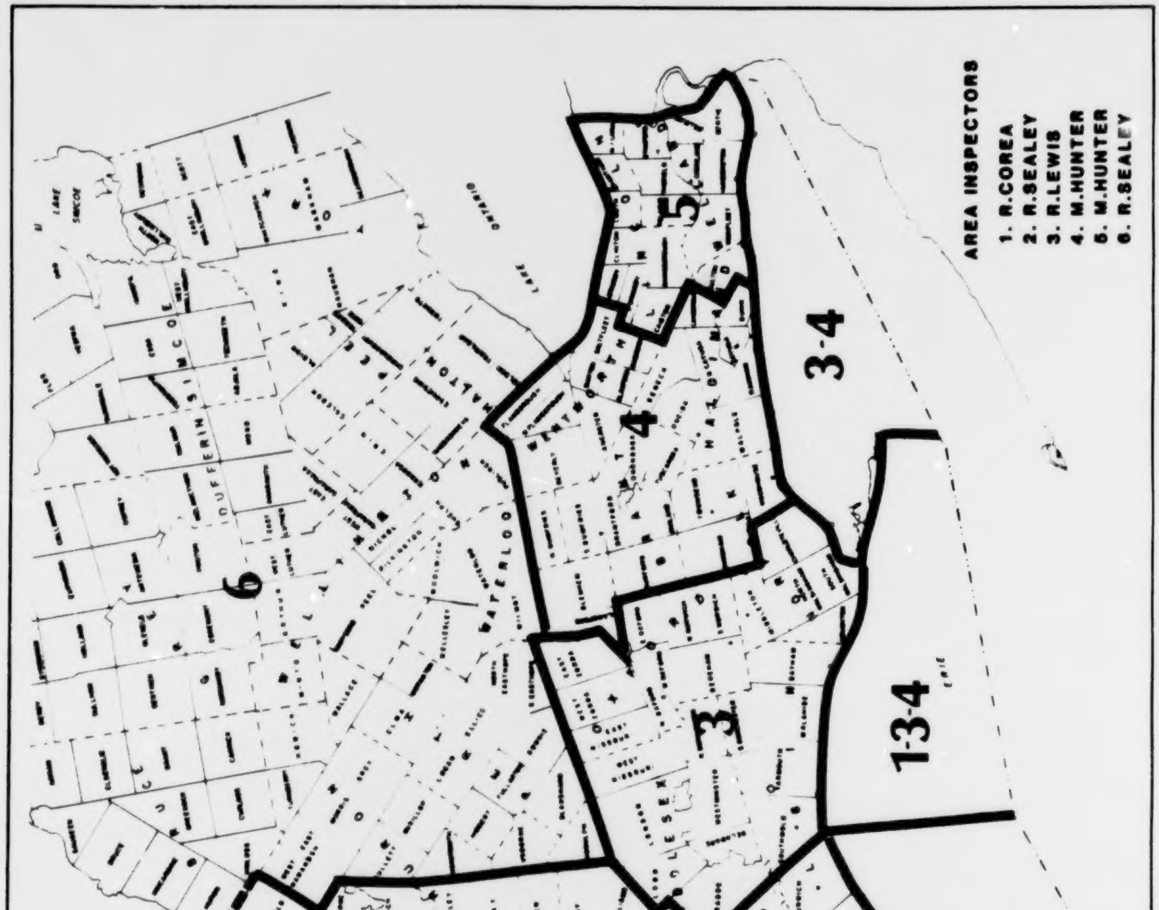

AREA INSPECTORS
1. R.COREA
2. R.SEALEY
3. R.LEWIS
4. M.HUNTER
5. M.HUNTER
6. R.SEALEY
1
2
3
4
5
6
1-3-4
3-4
ESSEX
KENT
LAMBTON
MIDDLESEX
WATERLOO
WENTWORTH
HALDIMAND
HALTON
DUFFERIN
SIMCOE
GREY
LAKE ST CLAIR
LAKE ERIE
LAKE ONTARIO
LAKE SIMCOE
LAKE HURON
GEORGIAN BAY

Figure 2. *Petroleum Resources Inspection Areas.*

and cores obtained from the drilling of all petroleum exploration, development, and service wells. Cuttings are sorted and washed when they are received from the field. The cores received at the Lab are slabbed using a diamond saw. All cores and cuttings are catalogued and permanently stored for use by the public. Once samples and core have been prepared for examination, formation tops are determined by microscopic examination. Well cards showing well location, elevations of all formation tops and other technical information are completed.

Regulations under the Petroleums Resources Act require that information on all exploratory wells remain confidential for a period of one year from completion of the well. Development wells are held confidential for one month.

Work areas for examination of files and samples are available in the lab for public use. Use of binocular microscopes and sample examination trays, etc can also be arranged with laboratory staff depending on availability. A petrographic microscope has also recently been acquired and is available for public use by prior arrangement with laboratory staff. There is no charge for these services. A photocopier is also available for public use at a cost of 12.5 cents per copy.

Geological staff at the Laboratory provide geological information and interpretations, conduct and publish the results of geological research, prepare statistical summaries, and make presentations at technical sessions.

An annual status report entitled "Oil and Gas Developments in Eastern Canada in 1986" (Carter and Campbell, 1987) was prepared for and published by the American Association of Petroleum Geologists. The report summarizes activities and highlights of exploration and production trends in Ontario and Eastern Canada for 1986. Reprints are available at the Petroleum Resources Laboratory. Similar summaries were also prepared for and published by Northeast Oilworld, and the Ontario Geological Survey (Trevail et al, 1987).

Staff attended various conferences and conventions during the year. R.A. Trevail presented a paper entitled "Exploration and development opportunities in Ontario" at the annual meeting of the Canadian Society of Petroleum Geologists in Calgary in June, 1986. The paper was well-received, resulting in several inquiries from Calgary-based companies. Trevail was also chairman of the technical program for the 1986 Ontario Petroleum Institute Annual Convention which was held in London.

As in previous years the Laboratory geological staff spent a large proportion of their time in consultation with staff of the oil and gas industry, other government ministries and agencies, universities, natural gas utilities, and petrochemical manufacturers. The collapse in world oil prices in early 1986 resulted in a significant decline in the number of oil and gas industry staff utilizing the services and facilities of the Petroleum Resources Laboratory, although these still comprised the largest group.

An increased proportion of the staff time was spent in dealing with groundwater-related issues, in consultation and cooperation with staff of the Ministry of the Environment. Staff provided geological and engineering data in relation to concerns about possible migration to the surface of liquid industrial wastes injected into the Detroit River Formation near the St. Clair River in the 1960's and early 1970's. No such migration was found to have taken place. Ministry of Environment staff also referred two instances of contamination of domestic water wells to the Ministry of Natural Resources for investigation of a possible relationship to abandoned and/or producing oil and gas wells.

2. CONVENTIONAL OIL AND GAS RESERVES

As part of the Hydrocarbon Energy Resources Program (HERP), funds from the Ontario Ministry of Treasury and Economics, under the Board of Industrial Leadership and Development (BILD) Program, were allocated to the Petroleum Resources Section. The funds are being used to conduct a study whose objective is to provide the petroleum industry and Ontario Ministry of Natural Resources with a revised current evaluation of the oil and gas reserves and potential of the Paleozoic rocks of Ontario. Areas underlain by Paleozoic rocks in southwestern Ontario and the St. Lawrence Lowlands will be re–evaluated in the study undertaken by local Ontario consultants, Bailey Geological Services Ltd. and R.O. Cochrane.

The study has been separated into 6 phases as follows:

Phase 1: Evaluation of the conventional hydrocarbon reserves and potential of the Ordovician rocks of Ontario
Phase 2: Evaluation of the conventional hydrocarbon reserves and potential of the Cambrian rocks of Ontario
Phase 3: Evaluation of the conventional hydrocarbon reserves and potential of the Devonian rocks of Ontario
Phase 4: Evaluation of the conventional hydrocarbon reserves and potential of the Silurian sandstones of Ontario
Phase 5: Evaluation of the conventional hydrocarbon reserves and potential of the Silurian reef complex of Ontario
Phase 6: Summary and publication of the findings of Phases 1 to 6 of the Project.

Phases 1 and 2 of the project were released in 1984 as Open File Reports 5498 and 5499 (Bailey and Cochrane, 1984a,b). They included 40 Preliminary Maps, covering the southern portion of the Province of Ontario at 1:250,000 scale, and showing the regional structures and isopachs of the Trenton Group, Black River Group, Shadow Lake Formation, and top of the Precambrian basement. Detailed oil and gas pool maps at 1:20 000 scale for 6 Cambrian pools and 10 Ordovician pools accompany the Open File Reports.

Phase 3 of the study was released in 1985 through the Ontario Geological Survey as Open File Report 5555, along with 86 Preliminary Maps at a scale of 1:100,000 (Bailey and Cochrane, 1985). The maps show the regional structure contours of the top of the pre–Hamilton Devonian carbonates, the base of the "Columbus" sandstone, and the top of the Devonian sulfur water–porosity; as well as isopach contours of the "Columbus" sandstone, the Oriskany–Springvale sandstone, the Sylvania sandstone, and top of the Devonian carbonates to top of the Devonian sulfur water–porosity. In addition to this, detailed structure and isopach maps at a 1:20 000 scale for 12 Devonian pools accompany the reports.

Phase 4, the Silurian Sandstone report, was released early in 1986 as Open File Report 5578, along with 86 preliminary maps at a scale of 1:100,000 (Bailey and Cochrane, 1986). The maps show the location and boundaries of the pools, regional structure contours on the top of the Rochester Formation, and isopach contours of the Thorold, Grimsby, and Whirlpool Sandstones.

Fifty–two preliminary maps at a scale of 1:100,000 comprising part of Phase 5, the Silurian reef complex report, were released on October 13, 1988, by the Ontario Geological Survey (Bailey and Cochrane, 1988). The maps show regional structure contours on the top of the Salina A–2 Carbonate Unit, and isopach contours of the top Guelph to top Rochester interval. Pool maps are expected to be ready for release early in 1989.

II. 1986 Exploration And Development Highlights

The drop in world oil prices, combined with the end of the Canadian Government's National Energy Program (NEP) and Petroleum Incentives Program at the end of May 1986, had a major negative impact on the amount of exploration activity in Ontario in 1986. Uncertainties connected with the effect of deregulation of the Canadian natural gas industry, which took effect on November 1, 1986, also may have contributed to the downturn in activity.

A total of 113 wells were drilled in Ontario in 1986 for a combined depth of 57,452.5 m, compared to 199 wells and 103,844.1 m in 1985. A total of 59 exploratory, 32 development, and 22 service wells were drilled in 1986. The exploratory drilling resulted in 20 gas producers and 4 oil producers, while 13 of the development wells were completed as gas producers, and 15 as oil producers. Exploratory wells completed as producers are listed in Table 1 and located on Figure 3. Exploratory wells which had oil or gas shows are listed in Table 2.

Drilling in Lake Erie was down dramatically, with only 4 development wells drilled in 1986 compared to 12 exploratory and 63 development wells drilled in 1985. All of the wells were drilled by Place Gas and Oil Company Ltd. to Silurian sandstone targets, and all were completed as gas producers.

Despite the dramatic reduction in lake drilling, drilling on land in Ontario decreased only 10% in 1986 compared to 1985. A total of 59 exploratory, 28 development, and 22 service wells were completed in 1986 compared to 59 exploratory, 40 development, and 24 service wells completed in 1985. Exploration for and development of deep reservoirs in the Middle Ordovician carbonate rocks of the Trenton and Black River Groups and in Cambrian sandstones continued to be the highlight of activity in 1986, continuing a trend begun in 1983 with the discovery of the prolific Hillman (Mersea 1–15–B) and Dover 7–5–V E Ordovician pools. Seventeen exploratory wells and 3 development wells were drilled into Ordovician strata in 1986. Only two of these wells were successful. Domego Terron 2 Mersea 6–16–B was completed as an oil producer in a successful exploratory test near the Mersea 1–15–B pool, and Consumers'et al 34011 Romney 3–8–II was completed as an oil producer in another exploratory test.

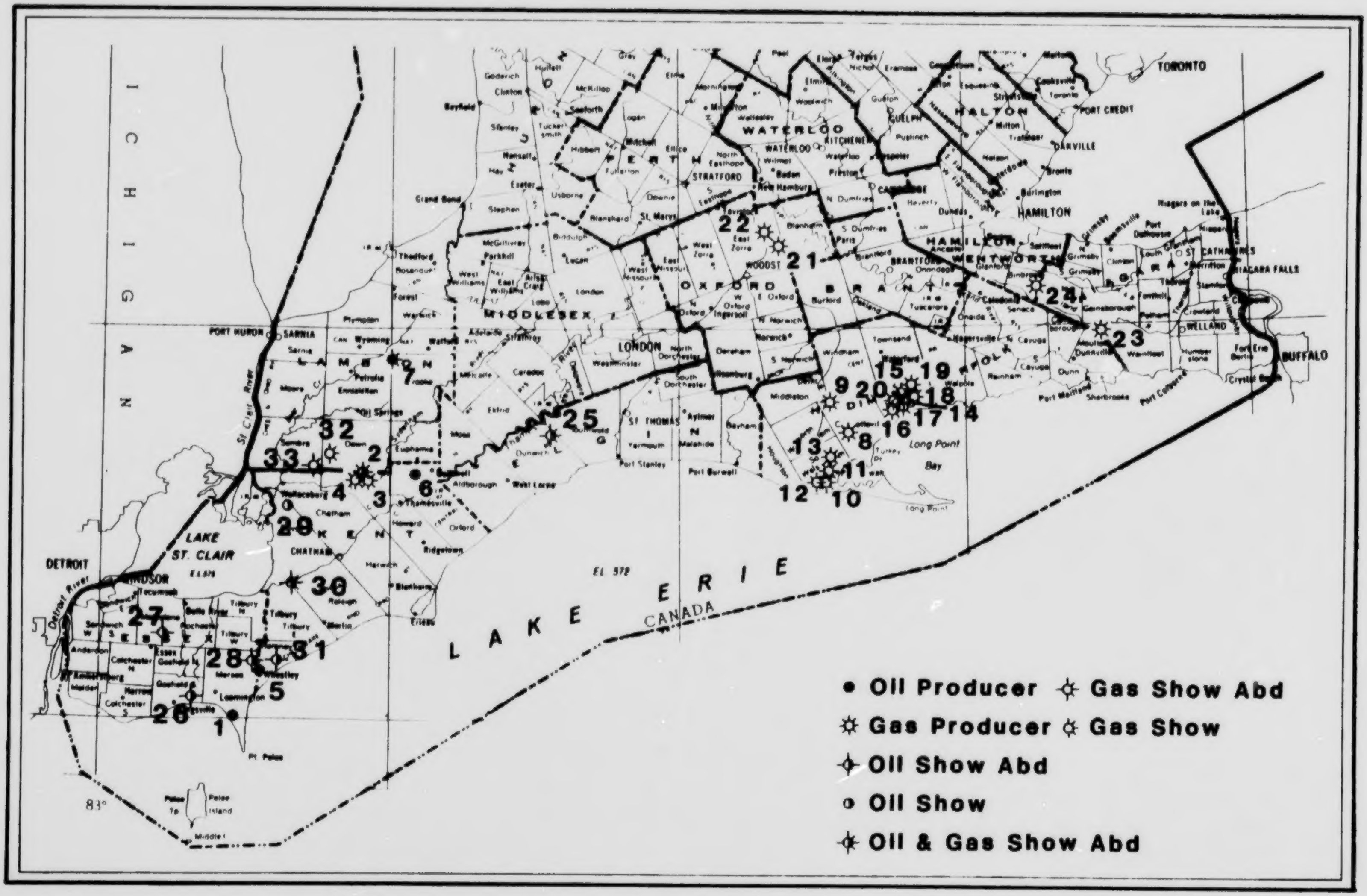
In other drilling activity, two successful Cambrian exploratory tests were drilled in 1986 near the Innerkip gas pool. Both wells represent probable extensions of the Cambrian sandstones from which production is derived in the Innerkip pool. A new gas pool was discovered in dolomitized Silurian limestones of the Salina A–1 and A–2 units by Twin Star 1 Camden 6–10–IX Gore. Two follow–up wells were also completed as gas producers.

Exploration for gas reservoirs in Silurian sandstones in Norfolk, Haldimand, Wentworth, and Welland Counties continued to be popular. A total of 15 exploratory wells and 11 development wells were successfully completed as gas producers in 1986.

Devran Petroleum Ltd. of London, Ontario, and Shell Canada Resources Ltd. completed the excavation of a 120–m (394–ft) vertical shaft through Devonian shales and carbonate rocks into the pay zone of the abandoned Sarnia–London Road oil pool. Excavation of the shaft and 2

TABLE 1: DISCOVERIES IN SOUTHWESTERN ONTARIO IN 1986.

Map No.	Latitude Longitude	Well Name	Producing Formation	Metres Drilled	Class Status	Compl. Date
ESSEX						
1	42°00'33" N 82°32'10" W	Domego Terron 2 Mersea 6-16-B	Verulam	800.1	NPW O.P.	86.02.26
KENT						
2	42°37'33" N 82°06'14" W	Twin Star 1 Camden 6-10-IX Gore	Al Carbonate	547.0	NPW G.P.-O.S.	86.03.24
3	42°37' 03" N 82°05' 14" W	Twin Star 2 Camden 6-10-X Gore	Al-A2 Carbonate	548.0	NPW G.P.	86.04.30
4	42°37' 11" N 82°05' 46" W	Twin Star 3 Camden 2-9-IX Gore	A1-A2 Carbonate	533.4	NPW G.P.	86.09.16
5	42°06' 24" N 82°26' 58" W	Consumers' et al 34011 Romney 3-8-11	Verulam	100.0	NPW O.P.	86.01.22
6	42°55' 12" N 81°37' 28" W	Bryant-Union Zone 4-4-11-VI	Dundee	112.3	NPW O.P.	86.03.15
LAMBTON						
7	42°55' 18" N 82°00' 17" W	Roth & Roth Brooke 6-1-XIV	Guelph	620.0	NPW O.P.-G.S.	86.04.10
NORFOLK						
8	42°44' 57" N 80°25' 37" W	Bayview 11 Charlotteville 7-7-VI	Grimsby	389.5	NPW G.P.	86.02.06
9	42°47' 49" N 80°27' 44" W	Chatham 23 Charlotteville 5-7-X	Grimsby	400.8	NPW G.P.	86.04.11
10	42°32' 17" N 80°29' 53" W	Chatham 14 South Walsingham 2-13-A	Grimsby	449.9	NPW G.P.	86.01.27
11	42°38' 14" N 80°28' 47" W	Chatham 15 South Walsingham 1-14-I	Thorold Grimsby	431.3	NPW G.P.	86.01.19
12	42°38' 14" N 80°29' 24" W	Chatham 16 South Walsingham 8-13-II	Thorold Grimsby	450.2	NPW G.P.	86.01.29
13	42°40' 12" N 80°28' 16" W	Chatham 21 South Walsingham 1-18-III	Thorold Grimsby	408.6	NPW G.P.	86.03.09
14	42°48' 55" N 80°15' 12" W	Chatham 18 Woodhouse 1-6-III	Thorold	348.1	NPW G.P.	86.03.12
15	42°51' 22" N 80°11' 25" W	Falcon Point 1 Woodhouse 5-16-VI	Thorold, Grimsby Whirlpool	307.5	NPW	86.03.08
16	42°47' 54" N 80°15' 29" W	Chatham 20 Woodhouse 3-5-II	Thorold	364.2	NPW G.P.	86.03.18
17	42°48' 05" N 80°15' 21" W	Chatham 19 Woodhouse 1-5-II	Thorold Grimsby	349.6	NPW G.P.	86.03.24
18	42°47' 56.5" N 80°12' 41.5" W	J.R.B. No. 1 Woodhouse 7-11-II	Thorold Grimsby	332.5	NPW G.P.	86.03.25
19	42°48' 31" N 80°11' 43" W	Chatham 25 Woodhouse 4-13-II	Thorold	332.8	NPW G.P.	86.04.14
20	42°48' 45" N 80°12' 48" W	Chatham 26 Woodhouse 8-11-III	Thorold	335.3	NPW G.P.	86.08.28
OXFORD						
21	43°12' 24" N 80°38' 40" W	Domego 2 Blandford 1-2-V	Cambrian	881.2	NPW G.P.	86.02.11
22	43°14' 09" N 80°41' 42" W	Innerkip 4 Blandford 3-7-VIII	Cambrian	877.8	NPW G.P.	86.11.05
WELLAND						
23	42°59' 14" N 79°31' 58" W	Chipandale Wainfleet 1-50-VII	Grimsby Whirlpool	185.9	NPW G.P.	86.06.30
WENTWORTH						
24	43°06' 05" N 79°44' 46" W	Bailey 1 Glanbrook 3-3-IV	Grimsby Whirlpool	141.7	NPW G.P.	86.11.14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OAKVILLE
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WENTWORTH
BRANTFORD
OXFORD
WOODST
MIDDLESEX
LONDON
ST THOMAS
NIAGARA FALLS
ST CATHARINES
WELLAND
BUFFALO
SARNIA
PORT HURON
LAMBTON
KENT
CHATHAM
LAKE ST. CLAIR
DETROIT
WINDSOR
ESSEX
Detroit River
St Clair River
Long Point Bay
Long Point
Pt Pelee
Pelee Island
LAKE ERIE
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● Oil Producer
Gas Producer
Oil Show Abd
○ Oil Show
Oil & Gas Show Abd
Gas Show Abd
Gas Show

Figure 3. *Discoveries and Important Dry Tests in Southwestern Ontario in 1986.*

TABLE 2: IMPORTANT DRY TESTS IN 1986.

Map No.	Latitude Longitude	Well Name	Formation Showing Oil or Gas	Metres Drilled	Class Status	Compl. Date
ELGIN						
25	42°32'43" N 81°27'02" W	Raen-Bedford Dunwich 2-24-A	Gull River	1125.9	NPW OSGS-ABD	86.06.10
ESSEX						
26	42°04'06" N 82°48'05" W	Consumers 34212 Gosfield South 8-5-III	Verulam	1040.0	NPW OS-ABD	86.11.07
27	42°12'19" N 82°47'24" W	Ram 92 Maidstone 8-12-SMR	Cobourg, Kirkfield Coboconk	1083.0	NPW OS-ABD	86.03.16
28	42°07'57" N 82°28'50" W	Ram 93 Mersea 7-22-IX	Cobourg, Verulam	1047.0	NPW OS-ABD	86.03.31
KENT						
29	42°32'05" N 81°21'20" W	Everdeen et al No.2 Dover 7-24-XV EBR	A-1 Carbonate	580.3	NPW OS-SUSP	86.11.20
30	42°20'44" N 82°20'28" W	Crow #4 Raleigh 8-2-I	Black River	1103.4	NPW OSGS-ABD	86.02.08
31	42°08'15" N 82°24'14" W	Consumers' et al 34010 Romney 7-17-III	Coboconk	1122.0	NPW OS-ABD	86.02.02
LAMBTON						
32	42°41'01" N 82°12'29" W	Ram 91 Dawn 7-20-III	Coboconk	1202.0	NPW GS-OBS	86.02.18
33	42°38'15" N 82°16'51" W	Ram 89 Sombra 2-26-V	Coboconk	1186.0	NPW GS-ABD	86.05.14

underground work and production stations was completed by summer 1986, and installation of a hoist and computerized ventilation, safety, and production equipment was then completed. By year end, 11 horizontal holes totalling approximately 3,350m (11,000 ft) had been drilled into the lower of 2 pay zones, and stimulation and testing had begun. The first oil was shipped in January 1987. Testing of the initial 11 holes will continue for 4-6 months before a decision is made to drill up to an additional 37 holes, 24 in the upper pay zone and 13 more in the lower pay zone.

In early 1986, the Ontario government decided to wind down the affairs of Onexco, the exploration division of the Ontario Energy Corporation. The assets of the company have been put up for sale, with an announcement of a deal expected early in 1987.

Coincident with deregulation of the natural gas industry, the Ontario Energy Board issued a ruling removing the operations of the exploration and development department of The Consumers' Gas Company Ltd. from the regulated portion of the utility. These operations will no longer be tied to the utility rate base and will function on an independent economic basis from the regulated portion of the company.

III. Leasing

1. LICENCES

The number of licences to lease oil and gas rights in Ontario issued in 1986 decreased to a total of 162 compared to 174 issued in 1985 (Table I–1).

2. ACTIVITY

A. Onshore – Southwestern Ontario

In 1986, 61,984.4 hectares were acquired on land, down 30.3% from the 88,947.0 hectares leased in 1985 (Table 3). The figures in Table 3 represent only new hectares leased on freehold lands, and therefore do not reflect the total number of hectares under lease and do not include assignments. The area leased increased in Kent County and in Huron County. All other counties recorded significant declines in leasing activity in 1986.

B. Offshore – Lake Erie

The Petroleum Resources Section, under Ontario Regulation 634 of the Mining Act, administers the disposition of Licences of Occupation and Production Leases in transactions involving Crown land in Lake Erie. Drilling is restricted to the portion of Lake Erie east of a line taken from Point Pelee, Ontario to Marble Head, Ohio. As well, production is limited to natural gas.

Approximately 1.1 million ha. (2.7 million ac) are available for exploration on Lake Erie. Table 4 shows the number of hectares on Lake Erie under disposition during 1963–1986. In 1986, 345,785.6 hectares were held under Licences of Occupation and 346,870.5 hectares were held un-

TABLE 3: HECTARES LEASED ONSHORE, 1982-1986.

County	1982	1983	1984	1985	1986
Brant	388.5	--	--	--	--
Bruce	1,018.2		485.6	87.4	--
Durham	--	54.2	60.7	--	--
Elgin	3,258.3	19,273.9	17,739.2	5,676.4	996.3
Essex	4,139.7	5,310.8	5,369.4	41,231.2	31,900.9
Grey	--	809.4	--	--	--
Haldimand	235.5	--	260.6	--	--
Halton	--	--	--	0.2	0.2
Huron	5,739.5	12,101.7	1,999.3	1,539.0	2,194.8
Kent	13,696.8	7,738.0	24,649.3	8,703.3	13,738.7
Lambton	22,249.7	28,001.7	21,926.6	19,464.6	10,158.1
Lincoln	4.0	40.5	--	--	--
Manitoulin Island	60.7	288.5	--	--	--
Middlesex	1,418.0	2,251.6	3,313.8	7,281.3	1,080.3
Norfolk	3,976.8	1,660.8	2,107.9	4,439.8	1,890.7
Oxford	357.7	141.6	111.5	519.6	20.2
Perth	--	--	--	--	--
Victoria	--	--	--	--	--
Welland	183.7	4.0	389.3	4.1	4.1
Wellington	184.5	517.6	--	--	--
Wentworth	--	--	--	--	--
TOTAL	56,911.6	78,194.3	78,413.2	88,947.0	61,984.4

TABLE 4: LAKE ERIE HECTARES UNDER DISPOSITION 1963-1986.

Year	Licences of Occupation	Production Leases	Total Hectares
1963	n/a	n/a	466,247.6
1964	n/a	n/a	n/a
1965	n/a	n/a	n/a
1966	n/a	n/a	259,493.1
1967	n/a	n/a	1,257,782.2
1968	n/a	n/a	1,257,631.3
1969	n/a	n/a	1,256,819.5
1970	n/a	n/a	828,671.8
1971	n/a	n/a	656,906.1
1972	594,437.6	62,236.3	656,673.9
1973	962,821.6	64,530.8	1,027,352.4
1974	1,011,015.2	71,206.1	1,082,221.3
1975	1,021,269.2	74,256.5	1,093,538.7
1976	1,019,282.2	74,256.5	1,093,538.7
1977	999,396.0	94,132.8	1,093,528.8
1978	961,746.0	157,274.3	1,119,020.3
1979	887,280.9	212,918.7	1,100,199.6
1980	889,578.0	215,002.0	1,104,580.0
1981	667,110.0	279,529.0	946,639.0
1982	843,068.0	301,109.0	1,144,177.0
1983	476,416.0	294,022.0	770,438.0
1984	766,823.9	301,229.3	1,068,053.2
1985	730,731.3	308,621.8	1,039,353.1
1986	345,785.6	346,870.5	692,656.1

der production leases for a total of 692,656.1 hectares under disposition. This is a major decline from 1985 when a total of 1,039,353.1 hectares were held under licence or lease. Approximately 410,947 ha (1,015,450 ac) were available for disposition at year end.

Rental payments to the Crown in 1986 were $128,168.10 for the Licences of Occupation and $574,700.78 for Leases. The total, $702,868.88, represented a decrease of 9% from rent collected in 1985. Royalty payments received by the Crown for the year amounted to $4,814,671.97, representing a 13% decrease from the $5,553,488.52 collected in 1985.

Total revenue for all royalties and rent for the year was $5,517,540.85, compared to $6,326,894.40 collected in 1985.

C. Hudson and James Bay Lowlands

Administration of licencing and leasing of oil and gas rights on Crown land in the Hudson and James Bay Lowlands is performed by the Petroleum Resources Section and personnel of Moosonee District, Ministry of Natural Resources under Regulation 603, R.S.O. 1970. This statute regulates Licences of Occupation on Crown lands north of the fifty-first parallel of latitude.

Licences previously held by the Ontario Energy Corporation for the purpose of exploring for lignite and bituminous shale expired in 1984. No new licences or leases were issued in 1986.

IV. Geophysical And Geochemical Activity

1. LICENCES

Forty-one licences to conduct geophysical or geochemical exploration for oil and natural gas in Ontario were issued in 1986 (Table I-2).

2. ACTIVITY

Geochemical exploration activity in 1986 continued at or marginally below the levels reported in 1985, principally due to completion of major new geochemical water well sampling projects by Chemical Projects Ltd and B.G. Environmental Surveys Ltd. (see Table 5). The focus of this geochemical exploration continued to be on Essex, Kent, Lambton, Middlesex, and Oxford Counties, with some new areas also surveyed in Perth, Waterloo, Wellington, and Brant Counties.

Seismic exploration activity decreased significantly, particularly in Essex and Lambton Counties. This is a reflection of the general overall decrease in exploration and development experienced in Ontario due to the decline in oil prices.

TABLE 5: GEOPHYSICAL AND GEOCHEMICAL EXPLORATION 1984-1986.

METHOD	COUNTY	1984		1985		1986	
		km +	ha	km +	ha	km +	ha
GEOCHEMICAL	Brant	--	18,716	--	--	--	1,300
	Elgin	396.0	56,608	--	42,325	--	59,800
	Essex	256.9	--	--	169,661	--	167,600
	Halton	--	--	--	--	--	2,000
	Hamilton-Wentworth	--	--	--	--	--	33,600
	Huron+Bruce	--	--	850.0	--	--	65,000
	Kent	107.7	--	--	177,158	--	216,000
	Lambton	233.8	--	278.6	276,248	--	132,800
	Middlesex	290.1	92,226	--	150,122	--	221,400
	Norfolk	--	39,803	--	--	--	--
	Oxford	290.0	58,914	--	113,789	--	117,800
	Perth	--	--	--	--	--	116,900
	Waterloo	--	--	--	--	--	80,600
	Wellington	--	--	--	--	--	20,900
Total		1574.5	266,267	1128.6	929,303	--	1,235,700
RADIOMETRIC	Kent	--	--	50.0	--	--	--
	Lambton	--	--	--	--	81.7	--
Total				50.0		81.7	
SEISMIC	Elgin	90.1	--	101.2	--	50.0	--
	Essex	55.5	--	664.8	--	222.3	--
	Huron	--	--	--	--	4.8	--
	Kent	74.0	--	66.5	--	118.3	--
	Lake Erie	372.0	--	--	--	--	--
	Lambton	91.9	--	131.3	--	21.7	--
	Middlesex	4.3	--	12.6	--	--	--
	Norfolk	1.0	--	--	--	--	--
Total		688.8		976.4		417.1	
TOTAL		2,263.3	266,267	2,189.0	929,303	417.1	1,235,700

V. Drilling

1. LICENCES

Licences were issued to owners of 73 machines for boring, drilling, or plugging wells in 1986 (Table I–3).

2. PERMITS

A total of only 128 drilling permits were issued in 1986, compared to 269 in 1985.

3. ACTIVITY

A total of 113 wells were drilled in Ontario in 1986 for a combined depth of 57,452.5 m (Table 6), compared to 199 wells and 104,844.1 m in 1985. The 1986 total includes 22 service wells; 4 natural gas storage wells, 4 LPG storage wells, 5 brine disposal wells, 3 solution mining wells, and 5 observation wells. One well was lost and abandoned. A total of 59 exploratory and 32 development wells were drilled in 1986 compared to 74 exploratory and 101 development wells drilled in 1985. The exploratory drilling resulted in 20 wells completed as gas producers and 4 as oil producers, while the development drilling resulted in 13 new gas producers and 15 new oil producers. Exploratory wells completed as producers are listed in Table 1 and located on Figure 3. Exploratory wells which had oil or gas shows are listed in Table 2.

Drilling in Lake Erie was down dramatically, with only 4 development wells drilled in 1986 compared to 12 exploratory and 63 development wells drilled in 1985 (see Table 7, Fig. 4). All of the wells were drilled by Place Gas and Oil Company Ltd. to Silurian sandstone targets, and all were completed as gas producers.

The Consumers' Gas Company Ltd., Pembina Exploration Company Ltd., and Diamond Shamrock Exploration of Canada Ltd., did not drill any wells in Lake Erie in 1986. The principal reason for the dramatic decrease appears to be uncertainties related to deregulation of the domestic natural gas industry and declining world gas and oil prices. Consumers' Gas also cited a lack of shallow gas exploration targets on its Lake Erie acreage.

Despite the dramatic reduction in lake drilling, drilling on land in Ontario decreased only 10% in 1986 compared to 1985. A total of 59 exploratory, 28 development, and 22 service wells were completed in 1986 compared to 62 exploratory, 38 development, and 22 service wells completed in 1985. One of the exploratory holes was lost at 130.0 m (427 ft) and 1 of the service wells was lost at 137.0 m (449 ft). Twenty of the exploratory wells were completed as gas producers and 4 as oil producers for a success rate of 40.7%. Nine of the development wells were completed as gas producers and 15 as oil producers for a success rate of 78.9%.

Exploration for and development of deep reservoirs in the Middle Ordovician carbonate rocks of the Trenton and Black River Groups and in Cambrian sandstones proceeded at a brisk pace in 1986, continuing a trend begun in 1983 with the discovery of the prolific Hillman (Mersea 1–15–B) and Dover 7–5–V E Ordovician pools (see Table 8). Twenty–four exploratory wells and 3 development wells were drilled into Ordovician and/or Cambrian strata in 1986.

TABLE 6: SUMMARY OF WELLS DRILLED IN 1986.

		EXPLORATORY						DEVELOPMENT						SERVICE		TOTAL	
County	Township	Gas	Oil	Dry	Susp	Total Wells	Total Metres	Gas	Oil	Dry	Susp	Total Wells	Total Metres	Total Wells	Total Metres	Wells	Metres
Bruce	Eastnor			1		1	579.4									1	579.4
Elgin	Aldborough			1		1	130.5		4			4	513.2			5	643.7
	Dunwich			1		1	1125.9									1	1125.9
	Southwold			1		1	1155.0									1	1155.0
Essex	Colchester S.			1		1	937.0									1	937.0
	Gosfield N.			1		1	942.0									1	942.0
	Gosfield S.			1		1	1040.0									1	1040.0
	Maidstone			1		1	1083.0									1	1083.0
	Mersea		1	1		2	1879.1			2		2	1864.2	1	184.0	5	3927.3
Haldimand	Moulton							1				1	202.7			1	202.7
Kent	Camden Gore	3				3	1628.4									3	1628.4
	Chatham			1		1	596.0		1			1	499.9			2	1095.9
	Dover			1		1	580.3									1	580.3
	Howard			1		1	650.0									1	650.0
	Raleigh			1		1	1103.4	1				1	496.5			2	1599.9
	Romney		1	1		2	2221.7			1		1	980.0			3	3201.7
	Zone		1	1		2	309.2		1				113.5			2	422.7
Lambton	Brooke		1	2		3	2471.7		3			3	370.4			6	2842.1
	Dawn			2		2	1208.7					0		3	1205.2	5	2413.9
	Enniskillen									1		1	614.0	2	259.1	3	873.1
	Euphemia			1		1	571.0									1	571.0
	Moore			3		3	3312.6							10	5860.5	13	9173.1
	Sarnia								2				250.1	3	1099.1	3	1349.2
	Sombra			3		3	3029.5	1				1	624.0	2	1197.0	6	4850.5
	Warwick					0			4			4	543.8			4	543.8
Manitoulin	Sandfield			1		1	355.7									1	355.7
Middlesex	Caradoc			1		1	120.7									1	120.7
	Metcalfe			2		2	266.7									2	266.7
	Mosa			1		1	1158.5									1	1158.5
Norfolk	Charlotteville	2		1		3	1209.8	1				1	367.5			4	1577.3
	Middleton							2				2	725.0			2	725.0
	N. Walsingham			1		1	404.5	1				1	399.3			2	803.8
	S. Walsingham	4				4	1740.0									4	1740.0
	Woodhouse	7				7	2370.0	1					333.5			7	2703.5
Oxford	Blandford	2		1		3	2640.8									3	2640.8
Welland	Wainfleet	1				1	185.9									1	185.9
Wentworth	Binbrook	1				1	141.7	1				1	146.0			2	287.7
SUB TOTALS		20	4	34	0	58	37148.7	9	15	4	0	28	9043.6	21	9804.9	107	55997.2
Lake Erie								4				4	1182.7			4	1182.7
Lost Holes	Essex/Gosfld.N					1	135.6									1	135.6
	Lambton/Ennis													1	137.0	1	137.0
TOTAL		20	4	34	0	59	37284.3	13	15	4	0	32	10226.3	22	9941.9	113	57452.5

TABLE 7: LAKE ERIE DRILLING STATISTICS 1960 TO 1986.

Year	EXPLORATORY				DEVELOPMENT				SERVICE					
	No. of Wells	Metres	Cumul. Wells	Cumul. Metres	No. of Wells	Metres	Cumul. Wells	Cumul. Metres	No. of Wells	Metres	Total Wells	Cumul. Wells	Metres Drilled	Cumul. Total Metres
1960	9	4232	9	4232	29	10462	29	10462		0	38	257	14693	14693
1961	8	2626	17	6857	28	9141	57	19603		0	36	293	11767	26461
1962	8	3097	25	9954	39	13292	96	32895		0	47	340	16388	42849
1963	15	6286	40	16240	20	7116	116	40011		0	35	375	13402	56251
1964	0	0	40	16240	20	6551	136	46563		0	20	395	6551	62803
1965	5	1676	45	17916	31	10211	167	56774		0	36	431	11888	74691
1966	0	0	45	17916	15	5552	182	62326	15	1211	30	461	6763	81454
1967	21	10021	66	27938	11	3954	193	66280		0	32	493	13975	95429
1968	29	14477	95	42415	16	6709	209	72989		0	45	538	21186	116615
1969	33	18370	128	60785	28	10389	237	83378	5	2151	66	604	30909	147524
1970	11	6771	139	67556	42	20219	279	103596		0	53	657	26990	174514
1971	8	4192	147	71747	29	15745	308	119342		0	37	694	19937	194451
1972	19	11841	166	83589	18	9464	326	128806		0	37	731	21306	215757
1973	16	9781	182	93370	26	13286	352	142092		0	42	773	23068	238824
1974	27	12103	209	105473	26	12948	378	155040		0	53	826	25051	263875
1975	30	13684	239	119157	40	16649	418	171689		0	70	896	30332	294207
1976	25	14141	264	133298	47	19068	465	190757		0	72	968	33209	327416
1977	21	13767	285	147064	44	24792	509	215549		0	65	1033	38559	365975
1978	23	15152	308	162216	62	31114	571	246663		0	85	1118	46266	412241
1979	24	14360	332	176576	97	52018	668	298681		0	121	1239	66378	478619
1980	50	29657	382	206234	76	45502	744	344182		0	126	1365	75159	553778
1981	19	9349	401	215583	76	36268	820	380450		0	95	1460	45617	599395
1982	10	4848	411	220431	54	24488	874	404938		0	64	1524	29336	628731
1983	16	7532	427	227963	55	25101	929	430039		0	71	1595	32633	661364
1984	7	3671	434	231635	62	27450	991	457489		0	69	1664	31121	692485
1985	12	11291	446	242925	63	28155	1054	485643		0	75	1739	39445	731930
1986	0	0	446	242925	4	1183	1058	486826		0	4	1743	1183	733113

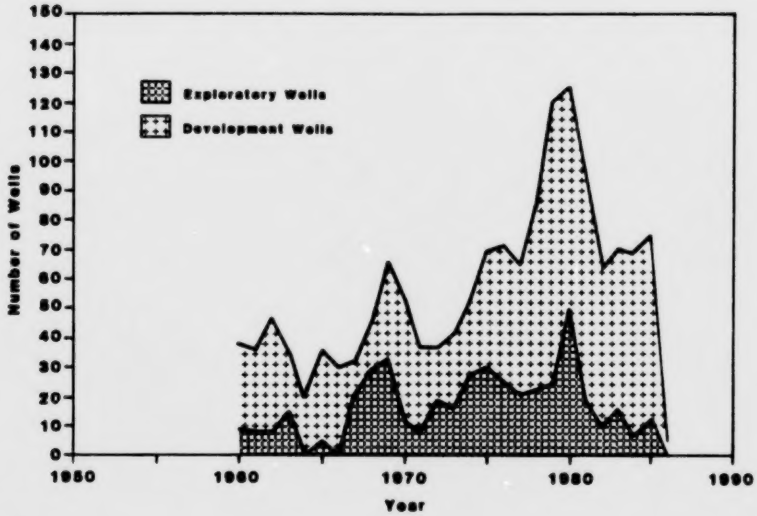

Figure 4. *Exploratory and Development Wells Drilled Annually in Lake Erie, 1960–1986.*

TABLE 8: DRILLING SUMMARY BY TARGET 1986.

	EXPLORATORY WELLS				DEVELOPMENT WELLS				SERVICE	TOTAL	METRES DRILLED
	Oil	Gas	Dry	Success Rate %	Oil	Gas	Dry	Success Rate %			
Devonian	1	0	5	16.7	14	0	0	100	6	26	3424.3
Silurian											
Clinton–Cataract	0	15	2	88.2	0	11	0	100	0	28	9408.6
Salina–Guelph	1	3	8	33.3	1	2	1	75	16	32	17997.3
Ordovician	2	0	15	11.8	0	0	3	0	0	20	19962.7
Cambrian	0	2	5	28.6	0	0	0	--	0	7	6659.6
Precambrian	0	0	0	--	0	0	0	--	0	0	0.0
TOTAL	4	20	35	40.7	15	13	4	78.9	22	113	57452.5

Domego Terron 2 Mersea 6–16–B was completed as an oil producer in a successful exploratory test near the Mersea 1–15–B pool. The Consumers' Gas Company Ltd., Pembina Exploration Company Ltd., and Onexco Oil and Gas Ltd. completed 4 more wells in their joint exploration program which began in 1983. One exploratory well, Consumers' et al 34011 Romney 3–8–II, was completed as an oil producer in the Verulam Formation. A follow-up well, Consumers' et al 34160 Romney 5–8–II had a good oil show in the same interval but after testing was finally abandoned in July, 1988. These 2 wells are believed to have intersected the same linear fracture trend. The remaining two wells were both abandoned after encountering shows of oil.

Two exploratory wells drilled by other operators were successfully completed as Cambrian gas producers in 1986; Domego 2 Blandford 1–2–V and Innerkip 4 Blandford 3–7–VIII. Both wells represent probable extensions to the Cambrian sandstones of the Innerkip gas pool. All of the remaining Ordovician and Cambrian tests drilled in 1986 were unsuccessful.

A new Silurian gas pool was discovered by Twin Star 1 Camden 6–10–IX Gore in 1986, with 2 follow–up wells also completed as gas producers. The gas reservoir is contained in zones of porous sucrosic dolomite in the Salina A–1 and A–2 units.

Fifteen exploratory wells were successfully completed as gas producers in Silurian sandstones of the Thorold and Grimsby Formations. One of these wells was also completed in sandstone of the Whirlpool Formation. Other exploratory successes included Roth and Roth Brooke 6–1–XIV, which was completed as an oil producer in the Guelph Formation; and Bryant–Union Zone 4–4–11–VI, which was completed as an oil producer in the Dundee Formation. Both these discoveries are believed to be extensions of previously discovered pools.

Devran Petroleum Ltd. of London, Ontario, and Shell Canada Resources Ltd. completed the excavation of a 120–m vertical shaft through Devonian shales and carbonate rocks into the pay zone of the abandoned Sarnia–London Road oil pool. Excavation of the shaft and 2 underground work and production stations was completed by summer 1986, and installation of a hoist and computerized ventilation, safety, and production equipment was then completed. By year end, 11 horizontal holes totalling approximately 3,350 metres had been drilled into the lower of 2 pay zones, and stimulation and testing had begun. The first oil was shipped in January 1987. Testing of the initial 11 holes will continue for 4–6 months before a decision is made to drill up to an additional 37 holes, 24 in the upper pay zone and 13 more in the lower pay zone.

Relatively accurate drilling statistics are available for the period 1955 to 1986 (Table 9, Figure 5, 6). During that time 2,842 exploratory, 3,602 development, and 786 service wells were drilled for a total of 7,230 wells. Total metreage amounted to 3,394,992 metres with an average depth of 470 metres.

TABLE 9: TOTAL DRILLING STATISTICS 1955 - 1986.

	EXPLORATORY					DEVELOPMENT					SERVICE								
year	wells	metres	ave. depth	cum. wells	cum. metres	wells	metres	ave. depth	cum. wells	cum. metres	wells	metres	ave. depth	cum. wells	cum. metres	total wells	cum. wells	total metres	cum. metres
1955	123	64414.6	523.7	123	64414.6	261	80662.0	309.0	261	80662	6			6	0.0	390	390	145076.6	145077
1956	134	67556.5	504.2	257	131971.1	290	89085.4	307.2	551	169747	7			13	0.0	431	821	156641.9	301718
1957	122	55660.4	456.2	379	187631.5	288	99079.5	344.0	839	268827	11			24	0.0	421	1242	154739.9	456458
1958	96	54504.3	567.8	475	242135.9	222	89702.0	404.1	1061	358529	35			59	0.0	353	1595	144206.4	600665
1959	116	59050.4	509.1	591	301186.3	165	63743.4	386.3	1226	422272	29			88	0.0	310	1905	122793.9	723459
1960	172	56107.6	326.2	763	357293.9	94	66373.5	706.1	1320	488646	40			128	0.0	306	2211	122481.1	845940
1961	165	49057.9	297.3	928	406351.8	85	56042.0	659.3	1405	544688	17	5473.0	321.9	145	5473.0	267	2478	110572.9	956513
1962	124	51013.5	411.4	1052	457365.3	81	58906.2	727.2	1486	603594	21	3062.0	145.8	166	8535.0	226	2704	112981.7	1069494
1963	93	66324.5	713.2	1145	523689.8	109	53386.6	489.8	1595	656981	14	3849.3	275.0	180	12384.3	216	2920	123560.4	1193055
1964	125	70824.5	566.6	1270	594514.3	91	60567.1	665.6	1686	717548	45	17738.8	394.2	225	30123.1	261	3181	149130.4	1342185
1965	108	54310.5	502.9	1378	648824.8	80	46476.5	581.0	1766	764024	16	6157.6	384.8	241	36280.6	204	3385	106944.6	1449130
1966	62	41181.8	664.2	1440	690006.6	56	27066.2	483.3	1822	791090	28	8074.5	288.4	269	44355.1	146	3531	76322.5	1525452
1967	68	38874.5	571.7	1508	728881.1	67	23815.8	355.5	1889	814906	21	9427.2	448.9	290	53782.3	156	3687	72117.5	1597570
1968	73	38823.3	531.8	1581	767704.4	79	39819.6	504.0	1968	854726	36	17955.5	498.8	326	71737.7	188	3875	96598.4	1694168
1969	144	91881.4	638.1	1725	859585.8	64	26345.9	411.7	2032	881072	29	16974.9	585.3	355	88712.6	237	4112	135202.2	1829370
1970	70	44411.2	634.4	1795	903997.0	98	49069.7	500.7	2130	930141	22	13434.7	610.7	377	102147.3	190	4302	106915.6	1936286
1971	64	39196.1	612.4	1859	943193.1	66	35323.5	535.2	2196	965465	30	13657.2	455.2	407	115804.5	160	4462	88176.8	2024463
1972	88	46991.9	534.0	1947	990185.0	47	23914.9	508.8	2243	989380	48	18445.9	384.3	455	134250.4	183	4645	89352.7	2113815
1973	52	31497.4	605.7	1999	1021682.4	56	27853.5	497.4	2299	1017233	18	7496.6	416.5	473	141746.9	126	4771	66847.5	2180663
1974	80	44415.2	555.2	2079	1066097.6	60	27143.9	452.4	2359	1044377	30	12602.6	420.1	503	154349.5	170	4941	84161.7	2264824
1975	66	37428.5	567.1	2145	1103526.1	71	26727.6	376.4	2430	1071105	25	15203.1	608.1	528	169552.6	162	5103	79359.2	2344184
1976	58	36088.3	622.2	2203	1139614.4	92	36600.9	397.8	2522	1107706	9	3804.5	422.7	537	173357.1	159	5262	76493.7	2420677
1977	57	33405.8	586.1	2260	1173020.2	113	55861.0	494.3	2635	1163567	19	8505.4	447.7	556	181862.6	189	5451	97772.2	2518450
1978	62	41724.1	673.0	2322	1214744.3	102	47902.9	469.6	2737	1211470	15	8448.8	563.3	571	190311.3	179	5630	98075.8	2616525
1979	67	45280.9	675.8	2389	1260025.2	142	69122.3	486.8	2879	1280592	13	7899.7	607.7	584	198211.0	222	5852	122302.9	2738828
1980	104	61244.1	588.9	2493	1321269.3	121	55954.2	462.4	3000	1336546	14	8383.5	598.8	598	206594.5	239	6091	125581.8	2864410
1981	50	29798.2	596.0	2543	1351067.5	131	56822.9	433.8	3131	1393369	50	9860.1	197.2	648	216454.6	231	6322	96481.2	2960891
1982	45	27813.2	618.1	2588	1378880.7	121	41890.9	346.2	3252	1435260	17	9772.0	574.8	665	226226.6	183	6505	79476.1	3040367
1983	49	29920.0	610.6	2637	1408800.7	116	51383.0	443.0	3368	1486643	48	14867.0	309.7	713	241093.6	213	6718	96170.0	3136537
1984	72	39874.4	553.8	2709	1448675.1	101	46725.5	462.6	3469	1533368	27	10558.1	391.0	740	251651.7	200	6918	97158.0	3233695
1985	74	45659.0	617.0	2783	1494334.1	101	47161.4	466.9	3570	1580530	24	11023.7	459.3	764	262675.4	199	7117	103844.1	3337539
1986	59	37284.3	631.9	2842	1531618.4	32	10226.3	319.6	3602	1590756	22	9941.9	451.9	786	272617.3	113	7230	57452.5	3394992

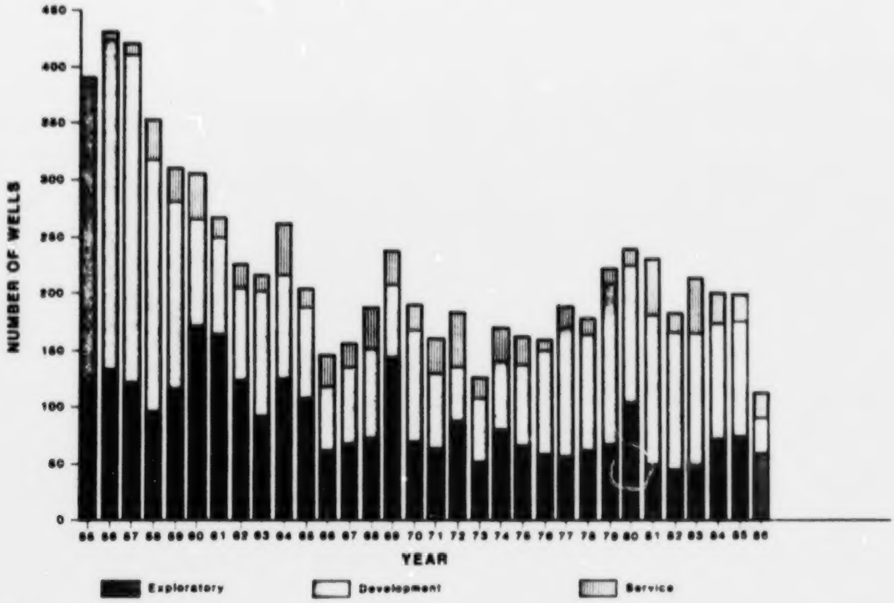

Figure 5. *Exploratory, Development, and Service Wells Drilled Annually in Ontario, 1955–1986.*

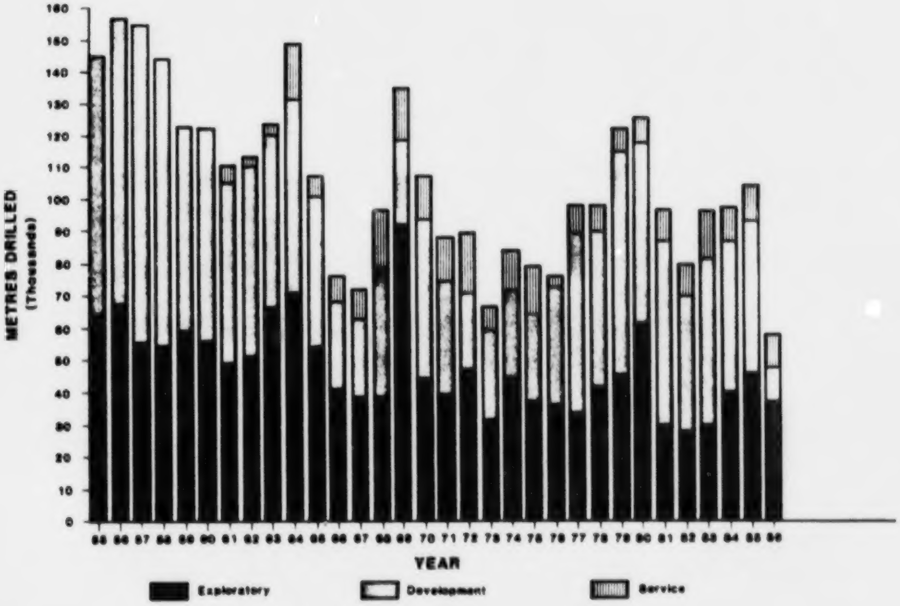

Figure 6. *Exploratory, Development, and Service Metres Drilled Annually in Ontario, 1955–1986.*

VI. Production

1. LICENCES

In 1986, 151 licences to produce oil and gas were issued, compared to 149 in 1985. Table I–4 lists persons licenced to produce gas and oil in 1986.

2. OIL PRODUCTION

Oil production in Ontario in 1986 increased substantially for the second year in a row. Ontario produced 135,816.3 cubic metres in 1986, compared to 112,953.6 cubic metres in 1985, a 20% increase. The increase is again largely attributable to increased production from the Hillman (Mersea 1–15–B) and Dover 7–5–V E pools due to additional wells put on production in 1985 and 1986. Together these two pools have a total of 17 producing wells and now account for 41% of Ontario's daily oil production of 373 cubic metres. Production of oil from the new Mersea 6–23–VII Ordovician oil pool also began in 1986.

There were 1,069 active oil wells in Ontario in 1986 with an average production of 127 m^3 per well (see Table 10). Of this total only 45 were Ordovician producers, 17 of which are in the Hillman and Dover 7–5–V E pools. These 17 wells produced an average of 3,246.5 m^3 per well for the year, illustrating the relative productivity of these Ordovician wells.

In 1986, for the second year in a row, more oil was produced from Ordovician strata than from any other strata in Ontario. Ordovician production totalled 61,703.1 m^3, accounting for 45.4% of total Ontario production (Table 11, Figure 7). Devonian oil pools contributed 25.9% of the total oil produced in Ontario followed by Silurian pools with 24.5% then Cambrian with 4.2%. The trend of increasing importance of Ordovician oil production is expected to continue for the next several years in view of the increasing exporation effort being directed at Ordovician targets. Geographically, for the first time, Essex County led all other parts of Ontario in oil production in 1986, accounting for 34.6% of the total production, followed by Lambton, Elgin, and Kent Counties (see Table 10, Figure 8).

Esso Petroleum Canada purchases all the crude oil produced in Ontario. In 1986 Esso reported that oil valued at $17,294,342.95 was delivered from Ontario producers, for its account, into the facilities of the Harold Marcus Terminal Limited in Sarnia. This oil had an average calculated price of $127.34 per cubic metre. This is a major decline from 1985 when Ontario production was valued at $26,444,968, at an average calculated price of $234.12 per cubic metre. This decline in revenues is due principally to the decline in oil prices which began in December of 1985 (Table 12, Figure 9), and partially to the termination of the National Energy Program on June 1, 1985. Prices used in Table 12 and Figure 9 are for "Mersea Township" crude oil as quoted on Ontario crude oil price bulletins issued by Esso Petroleum Canada.

Historical data on production of oil in Ontario are summarized in Table 13 and Figures 10 and 11.

TABLE 10: OIL PRODUCTION BY POOL OR FIELD, 1986.

County/ Pool Name	Active Wells	Production 1986 m^3	Operator 1986
ELGIN			
Aldborough 3-8-16-XII	2	113.4	Consumers
Aldborough 4-A-VIII	1	51.8	Realoil
Dunwich 16-I	2	206.5	Den-mar
Dunwich 18-I	1	33.4	Den-mar
Rodney	129	18,798.7	Canadian Occ.
Wallacetown	6	93.3	Paladin
Willey	7	2,337.6	Adanac
Subtotal	148	21,634.8	
% of Ont Total		15.9%	
ESSEX			
Colchester	6	706.5	Gaiswinkler, Putnam
Gosfield South	8	801.6	Gaiswinkler
Hillman	13	43,825.4	Consumers
Malden	4	332.9	Gaiswinkler
Malden 3-41-IV	1	85.4	Gaiswinkler
Mersea 6-15-B	1	357.4	Domego
Mersea 6-23-VII	1	701.6	Consumers
Rochester 1-20-V EBR	1	56.7	Revallee
Staples	1	66.3	Brett
Subtotal	36	46,933.8	
% of Ont Total		34.6%	
HALTON			
Hornby	1	25.0	Herman
Subtotal	1	25.0	
% of Ont Total		.0%	
HURON			
Grand Bend	6	1,951.0	Sunburst
Tipperary	1	47.7	Paladin
Subtotal	7	1,998.7	
% of Ont Total		1.5%	
KENT			
Bothwell-Thamesville	36	1,425.9	Koyden, Pope, Sitler, Sussex, Bryant
Chatham	3	739.2	Francisco, Riddell
Clearville	10	2,106.5	Murphy
Dover	3	222.4	Francisco, Comfort
Dover 7-5-V E	4	11,365.8	Rowe
Dresden	1	115.2	Brett
Morpeth	N/A	26.7	Consumers
Romney 3-8-II	1	3,170.6	Consumers
Subtotal	58	19,172.3	
% of Ont Total		14.1%	
LAMBTON			
Becher West	17	4,527.5	Murphy
Brigden	2	238.0	Consumers
Brooke	5	628.7	Crich
Brooke 1-9-X	1	65.1	Bluewater
Corey East	1	2,924.0	Ram
Corunna	10	2,416.6	Esso
Cromar	2	663.7	Corden, Ram
Dawn 156	1	80.4	Union
Dawn 28-II	5	3,646.8	Brookwood, Forbes
Dawn 4-28-III	1	48.5	Brookwood

TABLE 10: CONTINUED.

County/ Pool Name	Active Wells	Production 1986 m^3	Operator 1986
LAMBTON (cont.)			
Dawn Misc.	12	1,901.6	Colonial, Forbes, JMCD, LMG, Union, Proto
Edys Mills	1	1,204.7	Ram
Enniskillen 2-30-IX	1	24.5	Bluewater
Enniskillen 7-30-IX	1	106.1	Francisco
Ladysmith	3	2,433.7	Michigan
Logierait	1	99.1	Brett
Moore 5-6-III	1	9.9	Dow
Moore 7-6-III	1	879.4	Crawford
Oil Springs	440	5,996.8	Ayrheart, Baldwin, Barnes, Byers, Donald, Fairbank, Golden, Morningstar, Matheson, Mitchell, Patterson, Woods, Kersey
Osborne	1	38.3	Michigan
Otter Creek East	1	239.0	Cameron
Petrolia	202	7,508.3	625138 Ontario, Ayrheart, Bear, Bender, Brand, Bradley, Canflow, Cartier, Edward, Lambton, Lyons, Noble, Oil Field, Petrolia, Stevenson, Vye, Williams
Petrolia East	5	1,460.9	Ram
Plympton 5-19-VI	3	1,509.1	Bluewater
Seckerton	9	2,124.3	Esso
Seckerton North	5	1,063.4	Esso
Shetland	1	12.2	Annett
Sombra 18-VII	2	163.4	Crawford, Ram
Sombra 6-28-IX	1	54.3	Crawford
Sutorville	1	73.1	Brett
Wanstead	4	721.5	Roth & Roth
Warwick	1	486.4	Murphy
Warwick 6-17-IV SER	1	353.8	Bluewater
Subtotal	743	43,703.1	
% of Ont Total		32.2%	
MIDDLESEX			
Ekfrid 10-V S	1	105.5	Den-mar
Ekfrid 8-V S	1	89.4	Den-mar
Glencoe	38	1,201.3	Bedford, Brett, Glencoe
Mosa 10-I R.S.	1	112.5	Gaiswinkler
Subtotal	41	1,508.6	
% of Ont Total		1.1%	
OXFORD			
Gobles	32	644.4	Gaiswinkler/Brett
Innerkip	2	186.5	Cameron, Gaiswinkler, Nith
Innerkip East	1	9.1	Canadian Games
Subtotal	35	840.0	
% of Ont Total		0.6%	
TOTAL	1069	135,816.3	

TABLE 11: OIL PRODUCTION BY GEOLOGICAL AGE, 1981-1986.

COUNTY	POOL NAME	1981	1982	1983	1984	1985	1986
		m³					
			DEVONIAN				
Elgin	Aldborough 3-8-16-XII	0.0	0.0	0.0	1653.0	425.8	113.4
	Rodney	21720.6	20788.8	20307.8	19450.1	19217.6	18798.7
	Wallacetown	151.9	36.4	63.0	55.9	118.8	93.3
Kent	Bothwell-Thamesville	1403.9	1413.7	1477.8	1467.8	1410.2	1425.9
	Prarie Siding	0.0	0.0	0.0	25.8	37.3	0.0
	Zone 6-5-IV	0.0	118.3	43.9	26.1	20.0	0.0
Lambton	Beaver Meadow	35.3	36.6	0.0	0.0	0.0	0.0
	Brooke 2-24-X	0.0	0.0	0.0	27.1	6.6	0.0
	Brooke 5-14-XII	0.0	0.0	12.1	4.0	0.0	0.0
	Florence-Oakdale	0.0	0.0	0.0	38.4	21.6	0.0
	London Road	0.0	0.0	0.0	0.0	0.0	0.0
	Oil Springs	5396.0	5660.3	6069.7	5953.9	6169.3	5996.8
	Petrolia	4766.7	5445.4	6361.1	6244.6	6619.2	7508.3
	Watford-Kerwood	0.0	0.0	52.9	0.0	0.0	0.0
	Wilsoncroft	24.5	8.8	31.8	7.7	9.1	0.0
Middlesex	Glencoe	249.0	293.5	356.1	264.7	810.1	1201.3
Subtotal - Devonian		33747.9	33801.8	34776.2	35219.1	34865.6	35137.7
% of Ontario production		37.5	39.4	41.1	39.0	30.9	25.9
			SILURIAN				
Essex	Comber	0.0	0.0	0.0	0.0	10.5	0.0
	Staples	0.0	0.0	0.0	360.4	247.3	66.3
Huron	Grand Bend	3294.5	2956.8	2784.6	2459.4	2235.1	1951.0
	Tipperary	250.2	133.8	128.3	118.8	77.0	47.7
	Tipperary South	0.0	159.1	9.0	0.0	0.0	0.0
Kent	Chatham	319.4	177.8	331.0	236.2	249.7	739.2
	Dresden	166.7	139.3	145.1	129.9	114.0	115.2
	Fletcher	0.0	10.5	135.1	418.4	44.7	0.0
	Morpeth	0.0	0.0	25.0	27.0	42.7	26.7
Lambton	Becher West	6419.0	5722.7	5340.6	5255.6	5049.8	4527.5
	Brigden	256.9	224.2	245.0	229.2	194.8	238.0
	Brooke	2451.9	1667.5	1593.9	1023.9	817.8	628.7
	Brooke 1-9-X	535.0	351.9	296.9	178.6	133.0	65.1
	Corey East	1577.3	3961.7	3358.2	2997.6	2788.0	2924.0
	Corunna	3524.1	2601.7	2050.8	2185.2	1795.1	2416.6
	Cromar	697.9	522.8	600.4	642.5	475.7	663.7
	Dawn 156	278.5	275.1	224.4	146.9	94.2	80.4
	Dawn 28-II	164.0	280.9	1554.9	4932.9	2756.0	3646.8
	Dawn 4-28-III	0.0	86.7	272.8	160.4	69.0	48.5
	Dawn 5-29-IX	121.0	354.1	127.8	7.0	0.0	0.0
	Dawn Miscellaneous	1192.5	1598.0	1789.9	2101.2	1577.1	1901.6
	Edys Mills	1906.7	1594.5	1406.0	1357.9	1305.6	1204.7
	Enniskillen 2-30-IX	86.3	26.4	58.3	48.1	41.2	24.5
	Enniskillen 7-30-IX	0.0	0.0	0.0	644.2	509.1	106.1
	Euphemia 8-18-IV	0.0	0.0	0.0	0.0	17.4	0.0
	Ladysmith	2351.7	2110.9	2123.1	2266.4	2162.6	2433.7
	Logierait	0.0	0.0	0.0	0.0	8.8	99.1
	Moore 5-6-III	0.0	0.0	0.0	0.0	0.0	9.9
	Moore 7-6-III	568.4	699.8	562.5	567.6	378.3	879.4
	Moore 2-22-II	0.0	0.0	0.0	0.0	0.0	0.0
	Oil Springs East	68.0	47.0	22.9	14.4	24.5	0.0
	Osborne	149.9	94.1	76.5	47.5	43.8	38.3
	Otter Creek East	0.0	0.0	12.2	272.3	283.6	239.0
	Petrolia East	2716.7	2279.1	1832.9	1915.8	1891.0	1460.9
	Plympton 5-19-VI	5400.7	4329.4	3269.7	2418.6	1881.0	1509.1
	Seckerton	1961.5	2061.2	1211.3	1986.7	1067.0	2124.3
	Seckerton North	1978.9	1792.5	1171.2	808.9	767.0	1063.4
	Shetland	12.3	11.1	5.3	15.4	15.2	12.2
	Sombra 18-VII	191.3	105.3	108.8	142.5	152.8	163.4
	Sombra 4-9-XII	0.0	5.6	4.3	0.0	0.0	0.0

TABLE 11: CONTINUED.

COUNTY	POOL NAME	m³ 1981	1982	1983	1984	1985	1986
Lambton (cont)	Sombra 6-28-IX	55.1	99.0	110.6	108.1	95.4	54.3
	Sutorville	105.7	96.0	98.9	84.2	70.4	73.1
	Wanstead	495.5	691.2	705.8	700.1	573.6	721.5
	Warwick	860.6	767.8	688.4	584.8	552.3	486.4
	Warwick 6-17-IV SER	433.5	311.9	50.8	452.7	318.7	353.8
Middlesex	Mosa	144.0	130.0	129.6	108.2	109.1	112.5
Subtotal - Silurian		40735.7	38477.4	34662.8	38155.5	31039.9	33256.6
% of Ontario production		45.2	44.9	41.0	42.2	27.5	24.5
			ORDOVICIAN				
Elgin	Aldborough 4-A-VIII	346.7	188.0	119.1	77.0	53.4	51.8
Essex	Colchester	709.7	864.4	953.4	887.8	930.4	706.5
	Gosfield South	1951.0	1444.3	1223.5	1189.4	937.1	801.6
	Gosfield South 1-I_III	0.0	0.0	0.0	0.0	0.0	0.0
	Gosfield South 8-7-V	0.0	0.0	0.0	0.0	0.0	0.0
	Hillman	0.0	0.0	0.0	738.5	24451.8	43825.4
	Maidstone 7-17-V	0.0	0.0	0.0	0.0	0.0	0.0
	Malden	346.2	339.4	348.9	349.5	265.7	332.9
	Malden 3-41-IV	270.6	165.6	149.7	106.7	115.0	85.4
	Mersea 7-15-A	0.0	0.0	0.0	0.0	0.0	0.0
	Mersea 2-15-B	0.0	0.0	0.0	0.0	0.0	0.0
	Mersea 6-16-B	0.0	0.0	0.0	0.0	0.0	357.4
	Mersea 6-23-VII	0.0	0.0	0.0	0.0	0.0	701.6
	Rochester 1-20-V EBR	0.0	0.0	0.0	69.8	135.3	56.7
	Ruscom River	29.0	0.0	0.0	0.0	0.0	0.0
Halton	Hornby	0.0	0.0	0.0	0.0	8.0	25.0
Kent	Dover	55.8	54.7	851.2	651.5	330.4	222.4
	Dover 1-11-V E	0.0	0.0	0.0	3.3	6.8	0.0
	Dover 7-5-V E	0.0	0.0	2953.3	5380.3	13214.6	11365.8
	Romney 3-8-II	0.0	0.0	0.0	0.0	0.0	3170.6
	Romney 6-13-III	0.0	0.0	0.0	0.0	0.0	0.0
	Tilbury East 1-24-IX	0.0	0.0	0.0	0.0	0.0	0.0
Manitoulin	Manitoulin	0.0	0.0	17.7	0.0	0.0	0.0
Subtotal - Ordovician		3709.0	3056.4	6616.8	9453.8	40448.5	61703.1
% of Ontario production		4.1	3.6	7.8	10.5	35.8	45.4
			CAMBRIAN				
Elgin	Dunwich 16-I	249.6	458.3	329.8	333.8	243.6	206.5
	Dunwich 18-I	33.4	62.1	32.9	64.2	33.5	33.4
	Willey	5382.0	4706.7	3843.0	3038.6	2755.7	2337.6
Kent	Clearville	3102.8	2890.6	2208.5	2325.2	2175.6	2106.5
	Zone 5-III	42.0	31.0	18.7	7.0	0.0	0.0
Middlesex	Ekfrid 10-V-S	53.6	91.6	138.2	98.3	98.4	105.5
	Ekfrid 8-V-S	60.3	0.0	92.1	135.6	99.8	89.4
	Willey North	472.9	387.1	166.0	26.4	0.0	0.0
Oxford	Gobles	2425.1	1562.9	1438.1	1294.5	1067.9	644.4
	Innerkip	79.5	171.1	277.7	181.3	125.1	186.5
	Innerkip East	0.0	7.0	9.5	0.0	0.0	9.1
Subtotal - Cambrian		11901.2	10368.4	8554.5	7504.9	6599.6	5718.9
% of Ontario production		13.2	12.1	10.1	8.3	5.8	4.2
Total production		90093.8	85704.0	84610.3	90333.3	112953.6	135816.3

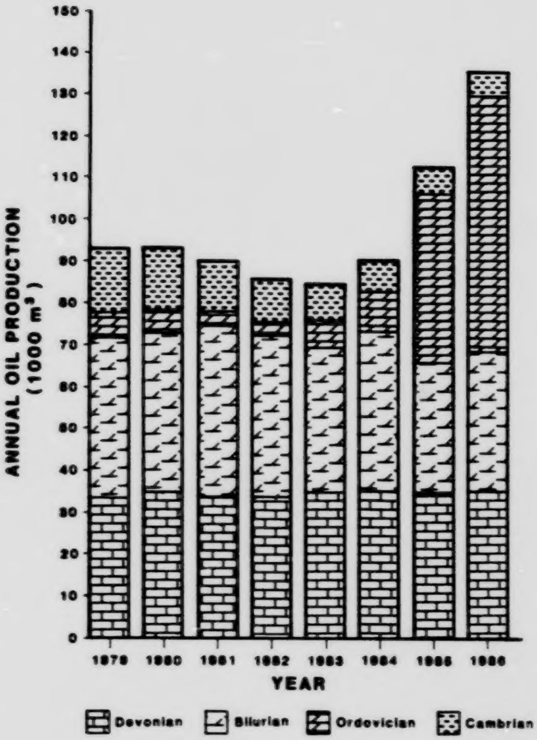

Figure 7. *Annual Oil Production by Geological Age, 1979–1986.*

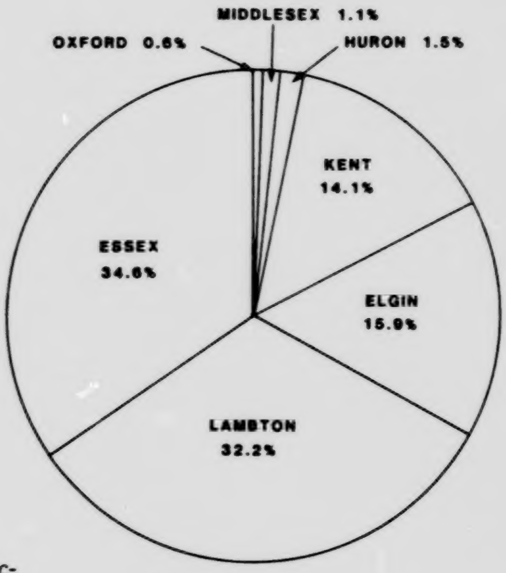

Figure 8. *Percentage Oil Production by County.*

TABLE 12: PAR CRUDE OIL PRICES IN ONTARIO, 1985 -1986.

Date	Price $/cubic metre	Date	Price $/cubic metre
June 1, 1985	244.04	Apr.29, 1986	112.84
July 1, 1985	239.32	May 3, 1986	117.81
July 9, 1985	236.06	May 8, 1986	120.31
Sept.1, 1985	237.44	May 9, 1986	126.81
Oct.1, 1985	241.56	May 15, 1986	130.81
Nov.26, 1985	249.64	June 4, 1986	123.86
Dec.12, 1985	233.64	June 10, 1986	115.85
Jan.10, 1986	223.99	July 5, 1986	109.83
Jan.22, 1986	189.01	July 10, 1986	98.80
Jan.28, 1986	179.01	Aug.6, 1986	119.81
Feb.1, 1986	174.08	Aug.12, 1986	127.83
Feb.19, 1986	137.99	Aug.21, 1986	133.86
Feb.15, 1986	143.99	Sept.6, 1986	137.84
Feb.27, 1986	128.98	Sept.11, 1986	133.84
Mar.4, 1986	121.04	Sept.17, 1986	127.09
Mar.6, 1986	109.02	Nov.14, 1986	131.09
Mar.20, 1986	113.95	Dec.2, 1986	130.09
Mar.26, 1986	103.99	Dec.10, 1986	127.06
Apr.11, 1986	108.94	Dec.16, 1986	131.07
Apr.19, 1986	107.83	Dec.23, 1986	143.07
Apr.24, 1986	109.83	Jan.1, 1987	146.39

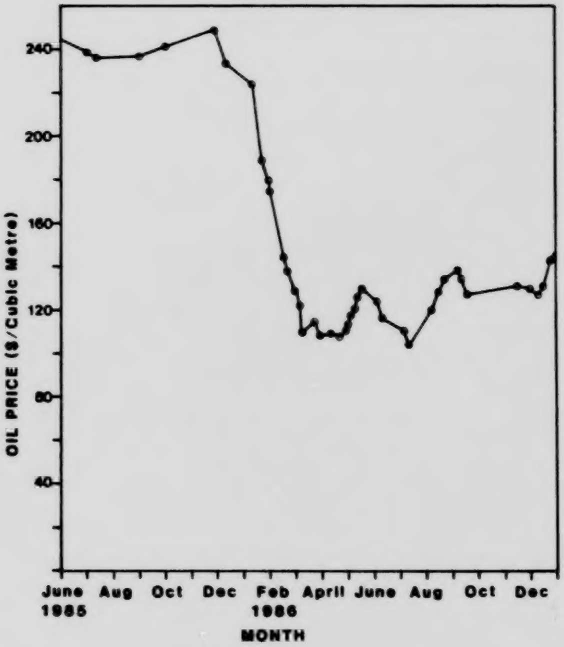

Figure 9. *Par Crude Oil Prices in Ontario 1985–1986.*

TABLE 13: HISTORICAL OIL PRODUCTION 1863 - 1986.

Year	Number of Producing Oil Wells	Oil Production M³	Aver. Oil Production /Well/Year	Cumulative Oil Production
1863		18125		18125
1864		23530		41655
1865		28936		70590
1866		34341		104931
1867		39747		144678
1868		45152		189831
1869		50558		240388
1870		56774		297163
1871		57911		355073
1872		59047		414120
1873		60183		474303
1874		61319		535623
1875		62456		598078
1876		63592		661670
1877		64728		726398
1878		65865		792263
1879		67001		859264
1880		68137		927401
1881		72673		1000074
1882		77222		1077295
1883		81765		1159060
1884		87216		1246276
1885		93120		1339396
1886		97663		1437059
1887		98572		1535631
1888		115266		1650896
1889		112881		1763777
1890		119240		1883017
1891		123215		2006232
1892		121625		2127857
1893		127190		2255047
1894		131164		2386211
1895		132754		2518965
1896		124010		2642975
1897		119240		2762216
1898		122420		2884636
1899		108906		2993542
1900		107316		3100858
1901		99367		3200225
1902		84263		3284488
1903		75519		3360007
1904		77109		3437115
1905		96187		3533302
1906		93637		3626939
1907		123990		3750929
1908		84097		3835027
1909		66880		3901906
1910		49987		3951893
1911		45889		3997782
1912		38306		4036088
1913		35958		4072045
1914		33784		4105829
1915		34094		4139923
1916		31301		4171224
1917		32273		4203497
1918		45909		4249406
1919		34993		4284399
1920		28896		4313295
1921	3465	27482	8	4340777
1922	3506	26190	7	4366967
1923	3407	25342	7	4392310
1924	3379	24534	7	4416844

TABLE 13: CONTINUED.

Year	Number of Producing Oil Wells	Oil Production M^3	Aver. Oil Production /Well/Year	Cumulative Oil Production
1925	2884	22934	8	4439778
1926	2752	21777	8	4461555
1927	2708	22195	8	4483750
1928	2641	21330	8	4505080
1929	2443	19257	8	4524338
1930	2222	18650	8	4542987
1931	2208	19454	9	4562442
1932	2056	20723	10	4583164
1933	2151	21631	10	4604796
1934	2201	22478	10	4627274
1935	2109	26239	12	4653514
1936	2079	26311	13	4679825
1937	2082	26265	13	4706090
1938	2110	27448	13	4733538
1939	2065	32812	16	4766350
1940	2028	29833	15	4796183
1941	1956	25348	13	4821531
1942	1852	22870	12	4844401
1943	1728	21064	12	4865465
1944	1609	19884	12	4885349
1945	1579	18017	11	4903367
1946	1610	19568	12	4922935
1947	1559	20874	13	4943809
1948	1489	28139	19	4971948
1949	1518	41443	27	5013391
1950	1513	39851	26	5053243
1951	1471	31348	21	5084590
1952	1381	30496	22	5115086
1953	1423	47646	33	5162732
1954	1396	65578	47	5228311
1955	1433	83549	58	5311860
1956	1422	94338	66	5406198
1957	1428	99155	69	5505353
1958	1412	123746	88	5629099
1959	1384	159239	115	5788338
1960	1339	159787	119	5948125
1961	1312	182690	139	6130815
1962	1300	180377	139	6311192
1963	1311	191639	146	6502831
1964	1243	198207	159	6701038
1965	1234	203371	165	6904408
1966	1183	210464	178	7114873
1967	1068	197192	185	7312064
1968	1041	182959	176	7495024
1969	929	184726	199	7679749
1970	920	166693	181	7846442
1971	873	152326	174	7998768
1972	878	139608	159	8138376
1973	756	128565	170	8266941
1974	673	116707	173	8383649
1975	693	111978	162	8495627
1976	695	98812	142	8594439
1977	658	98372	150	8692811
1978	715	95144	133	8787956
1979	760	92932	122	8880888
1980	804	93272	116	8974160
1981	871	90094	103	9064253
1982	916	85704	94	9149957
1983	952	84610	89	9234568
1984	961	90333	94	9324901
1985	1102	112954	102	9437855
1986	1069	135816	127	9573671

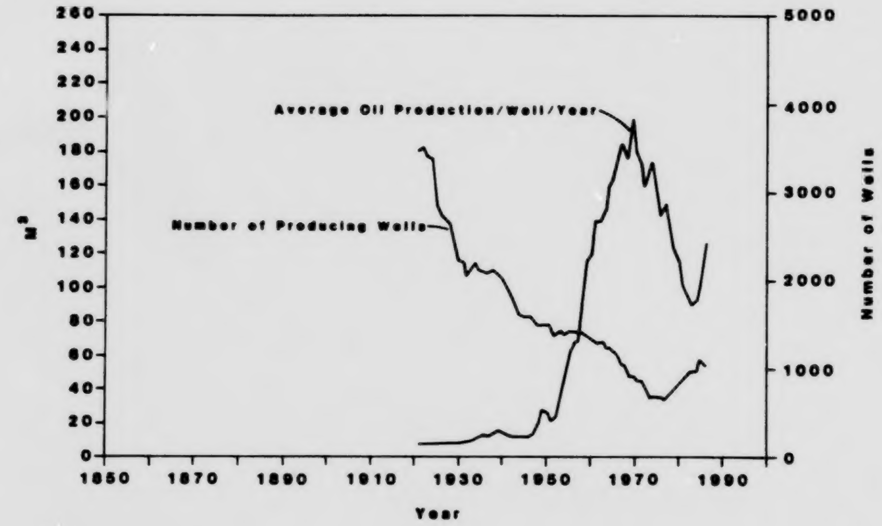

Figure 10. *Number of Producing Oil Wells and Average Oil Production/Well/Year 1921–1986.*

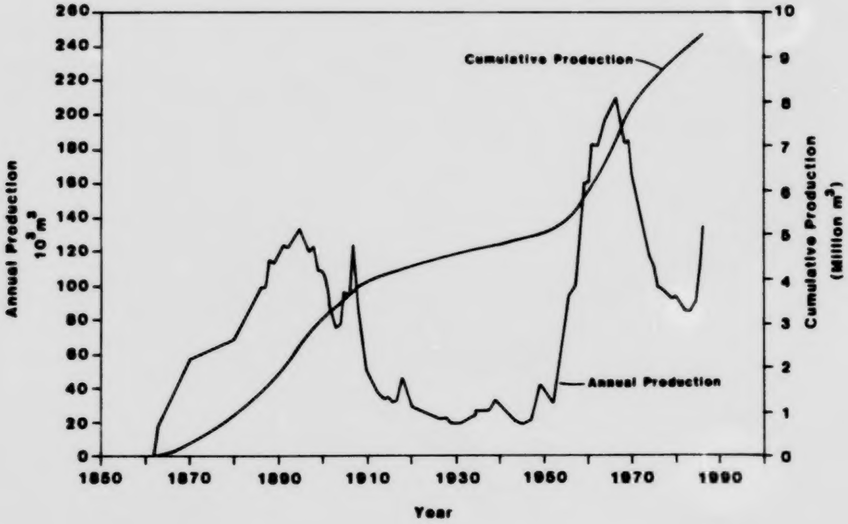

Figure 11. *Annual and Cumulative Oil Production 1863–1986.*

3. GAS PRODUCTION

Production of natural gas in 1986 amounted to 531,727.1 thousand m^3. This consisted of 398,031.1 thousand m^3 from wells on Lake Erie, and 133,696.0 thousand m^3 from wells on land. Both totals represent a decrease from 1985 production (see Table 14).

The most productive gas pools in 1986 were once again the Maitland Pool (Lake Erie) with 26.2% of total production and the Morpeth Pool (Lake Erie) with 17.3%, followed by the Silver Creek Pool (Lake Erie) with 12.4%, and the Clear Creek Pool (Lake Erie) with 10.0%.

As in the previous 4 years the bulk of the natural gas production in 1986 was derived from relatively thin but laterally extensive nearshore shelf sandstones of the Thorold Formation, and distal deltaic sandstones of the Grimsby Formation, with some additional contribution from shelf and fluvial sandstones of the Whirlpool Formation, and carbonates of the Reynales Formation. Reservoirs consist of porosity and permeability pinchouts in the sandstone units. Production from these 'Clinton–Cataract' reservoirs amounted to 59.7% of total production in 1985 (see Table 15, Figure 12). Most of the remaining gas production was derived from dolomitized reefal carbonates of the Guelph Formation and the A–1 and A–2 Carbonate Units of the Salina Group.

Geographically wells on Lake Erie once again produced the bulk of the natural gas in Ontario, accounting for 74.9% of production in 1985. Cumulative natural gas production from Lake Erie for the period 1960–1985 amounted to 6,223,288.1 thousand m^3 (Table 16). Lambton County accounted for the bulk of onshore production (see Table 14, Figure 13).

There were 1,266 active gas wells in Ontario in 1986. Average production per well in 1986 was 420.0 thousand m^3, down significantly from 1985. The average price paid by Union Gas to Ontario producers in 1986 was $129.00 per thousand m^3. Based on this price the total value of Ontario production in 1986 was approximately $68.6 million.

Historical data on production of natural gas in Ontario is summarized in Table 16 and 17 and Figures 14 to 16 inclusive. Cumulative production of natural gas in Ontario for the period 1905–1986 totalled 27,138,770 thousand m^3.

4. SOURCES OF PRODUCTION AND RESERVOIR DATA IN ONTARIO

The production tables included in this report were compiled utilizing a variety of sources including previous Annual Reports, Oil and Gas Papers, and Open File Reports prepared by Bailey and Cochrane (1984 a, b, 1985, 1986). The latter report provides a detailed description of the various sources of data available and the problems one encounters when attempting to assemble a production history for any particular pool. The entire section is reprinted here as it is a valuable aid to anyone utilizing production data available in files of the Petroleum Resources Section, Ministry of Natural Resources.

"As a condition for the receipt or renewal of a licence to produce oil and gas in Ontario, the Ontaro Ministry of Natural Resources (OMNR) requires the operator to submit annually a tabulation of the oil and gas produced by well and by field for the previous year; OMNR Form 109 is used for gas and Form 108 for oil production. the OMNR also receives annual records of gas purchases by the utilities, primarily, Union Gas Ltd. and Consumers' Gas Co.; and records of oil purchases from the refiners, primarily, Imperial Oil Ltd.

TABLE 14: GAS PRODUCTION BY POOL OR FIELD, 1986.

County/ Pool Name	Active Wells 1986	Production 1986 1000 m³	Operator 1986
BRANT			
Brant	20	382.1	Hyslop
Subtotal	20	382.1	
% of Ont Total		0.1%	
ELGIN			
Aldborough 4-20-VII	1	882.9	Intrex
Cowal	2	278.7	Union
Townline	9	165.1	Cameron, Union
Subtotal	12	1,326.7	
% of Ont Total		0.2%	
HALDIMAND			
Haldimand	150	1,463.2	Emerson, Fisherville, Glenfred, Lincoln Wellandport
Subtotal	150	1,463.2	
% of Ont Total		0.3%	
HURON			
Bayfield	2	43.1	Paladin
Stanley 4-7-XI	2	7,224.8	Paladin
Tipperary	2	1,042.5	Paladin
Tipperary South	1	696.1	Paladin
Subtotal	7	9,006.5	
% of Ont Total		1.7%	
KENT			
Botany	2	880.6	Cameron
Camden 1-11-XIV Gore	1	238.0	Consumers
Camden Gore	11	1,433.2	Union
Chatham	15	1,286.1	Union, York
D'Clute	1	246.4	Union
Dover	4	1,388.1	Union
Dover 7-5-V E	3	227.8	Rowe
Dover 7-10-VI E	1	51.5	J.W.K.
Doyles	1	20.8	Cameron
Morpeth	8	651.6	Pegg
Tilbury	30	5,910.1	Union
Wolfe	1	193.2	Raen
Zone	30	1,881.4	Union
Subtotal	108	14,408.8	
% of Ont Total		2.7%	
LAMBTON			
Avonry	1	832.9	Avonry
Becher West	23	1,513.1	Murphy
Brigden	2	728.9	Consumers
Charlemont	1	290.6	Cameron
Corunna	2	207.0	Esso
Coveny	1	2,478.9	Union
Dawn 1	7	1,258.1	Union
Dawn 1-27-VI	2	19,353.3	Union
Dawn 7-28-V	1	2,334.9	Union
Dawn 5-30-IV	2	301.6	Union
Dawn Misc.	12	2,108.1	Union, Colonial, Forbes
Edys Mills	1	3,830.3	Ram

TABLE 14: CONTINUED.

County/ Pool Name	Active Wells 1986	Production 1986 1000 m³	Operator 1986
LAMBTON (cont.)			
Edys Mills East	1	48.3	Ram
Enniskillen 26	1	544.9	Clarke
Logierait	1	345.0	Brett
Moore 5-6-III	1	785.1	Dow
Moore 2-22-II	1	2,106.9	Oilfinders
Moore 7-27-VI	1	771.3	Consumers/ Ram
Oil City	2	4,876.3	Union
Oil Springs East	1	2,088.0	Talcorp
Otter Creek	5	657.1	Cameron, Ram
Otter Creek East	3	433.3	Brett
Sarnia 1-8-A	2	26,947.0	Dow
Sombra 3-26-VI	1	214.3	Ram
Subtotal	75	75,055.2	
% of Ont Total		14.1%	
LINCOLN			
Lincoln	10	256.7	Consumers
Subtotal	10	256.7	
% of Ont Total		--	
NORFOLK			
Hemlock	5	870.9	Hemlock
Norfolk	194	21,102.2	Bayview, Chatham, Colonial, Cons. Explorer, Consumers, Craven, Fernlea, F&M, Freeman, Jourika, Metalore, Morrison
Venison Creek	14	2,357.5	Cons. Explorer
Subtotal	213	24,330.6	
% of Ont Total		4.6%	
OXFORD			
Innerkip	4	4,961.2	Canadian Games, Nith
Innerkip East	1	318.1	Canadian Games
Subtotal	5	5,279.3	
% of Ont Total		1.0%	
WELLAND			
Welland	39	951.2	Consumers, Dark, Fox, Ort, Marr, Ruch, Willoyd
Subtotal	39	951.2	
% of Ont Total		0.2%	
WELLINGTON			
Arthur	3	1,235.8	Kenartha
Subtotal	3	1,235.8	
% of Ont Total		0.2%	
ONSHORE Subtotal	642	133,696.0	
% of Ont Total		25.1%	

TABLE 14: CONTINUED.

County/ Pool Name	Active Wells 1986	Production 1986 1000 m^3	Operator 1986
LAKE ERIE PRODUCTION UNITS			
Clear Creek	67	53,180.6	Consumers
D'Clute	9	1,743.2	C.W.P., Pembina
Dover	57	11,368.4	C.W.P., Mitchell, Place
Leepfrog	8	3,208.2	Consumers
Maitland	236	139,479.9	Mitchell, Pembina, Place
Morpeth	25	92,022.4	Consumers
Selkirk	71	16,874.6	Mitchell, Place
Silver Creek	74	65,965.4	Consumers
Tilbury	75	14,188.4	C.W.P.
LAKE ERIE Subtotal	622	398,031.1	
% of Ont Total		74.9%	
TOTAL	1266	531,727.1	

TABLE 15: NATURAL GAS PRODUCTION BY GEOLOGICAL AGE, 1981-1986.

COUNTY	POOL NAMES	1981	1982	1983	1984	1985	1986
	SILURIAN CLINTON/CATARACT						
Brant	Brant	485.6	351.6	382.3	407.4	394.3	382.1
Haldimand	Haldimand	2476.2	1969.3	1822.9	1660.1	1614.9	1463.2
Lincoln	Lincoln	215.5	219.8	228.2	276.6	249.2	256.7
Norfolk	Hemlock	1399.2	1133.4	737.1	724.5	925.0	870.9
	Norfolk	25092.9	20387.2	19305.4	19547.2	19886.1	21102.2
	Venison Creek	3145.7	4604.4	4181.1	3567.8	2800.6	2357.5
	Wilsonville	105.4	0.0	0.0	0.0	0.0	0.0
	Wilsonville South	45.2	0.0	0.0	0.0	0.0	0.0
Oxford	Norwich South	26.7	0.0	0.0	0.0	0.0	0.0
Welland	Welland	1914.9	681.9	719.0	783.0	950.4	951.2
Lake Erie	Clear Creek	50194.9	43357.0	53613.8	48429.5	53904.9	53180.6
	Colborne	0.0	0.0	0.0	0.0	0.0	0.0
	Dover	16134.8	14233.0	17207.0	16243.0	13930.5	11368.4
	Leepfrog	7453.8	6348.4	7417.0	4345.5	3888.4	3208.2
	Maitland	71029.7	115654.0	115526.2	140992.1	150374.8	139479.9
	Selkirk	13828.0	12937.0	12036.8	13049.0	15931.1	16874.6
	Silver Creek	55217.0	42709.9	53618.9	74863.7	68463.2	65965.4
Subtotal - Clin/Cat		248765.5	264586.9	286795.7	324889.4	333313.4	317460.9
% of Ontario production		48.1	51.6	54.8	59.6	56.6	59.7
	SILURIAN SALINA/GUELPH						
Elgin	Aldborough 4-20-VII	77.6	351.2	18.3	2.3	130.7	882.9
	Cowal	316.4	363.8	315.0	291.9	280.4	278.7
	Townline	2311.0	2246.4	2021.7	1162.7	659.6	165.1
Huron	Bayfield	0.0	0.0	1705.9	1525.9	587.0	43.1
	Stanley 4-7-XI	0.0	0.0	0.0	0.0	2738.5	7224.8
	Tipperary	1864.5	1451.8	1013.1	1003.1	843.6	1042.5
	Tipperary South	1504.1	2389.1	1191.6	936.5	910.8	696.1
Kent	Botany	936.1	1029.1	631.4	1023.2	875.6	880.6
	Camden 1-11-XIV Gore	0.0	0.0	0.0	0.0	1083.2	238.0
	Camden Gore	1281.5	1369.3	1449.4	1447.1	1487.8	1433.2
	Chatham	1002.5	1163.9	1265.5	1028.7	1328.1	1286.1
	D'Clute	283.5	223.4	209.6	265.2	213.6	246.4
	Doyles	0.0	0.0	0.0	0.0	0.0	20.8
	Morpeth	843.3	701.8	756.2	722.3	695.2	651.6
	Tilbury	8568.1	6817.9	6971.6	6044.2	5766.7	5910.1
	Wolfe	130.5	112.5	169.8	146.4	129.8	193.2
	Zone	1853.2	1971.1	1943.1	1752.2	1588.2	1881.4
Lambton	Avonry	0.0	0.0	0.0	0.0	0.0	832.9
	Becher East	314.9	0.0	14.6	0.0	0.0	0.0
	Becher West	1342.5	958.6	1066.2	1689.4	1357.1	1513.1
	Brigden	1317.3	1051.4	915.2	876.2	770.5	728.9
	Charlemont	202.2	135.9	97.2	134.9	136.6	290.6
	Corunna	0.0	141.6	176.2	183.4	142.0	207.0
	Coveny	8064.5	3911.6	2505.7	902.1	2226.1	2478.9
	Cromar	571.6	484.6	262.5	839.7	531.5	0.0
	Dawn 1	628.1	735.0	583.7	971.3	427.5	1258.1
	Dawn 1-27-VI	0.0	0.0	0.0	0.0	15562.4	19353.3
	Dawn 7-28-V	5766.4	2685.8	3266.1	2444.3	1360.3	2334.9
	Dawn 5-29-IX	1358.0	1297.0	525.3	0.0	0.0	0.0
	Dawn 2-30-XIV	0.0	0.0	0.0	0.0	0.0	0.0
	Dawn 5-30-IV	34.8	155.5	353.4	339.2	446.1	301.6
	Dawn Miscellaneous	3840.2	2442.5	2602.8	2116.0	939.6	2108.1
	Edys Mills	0.0	1756.3	2835.0	3838.9	3553.1	3830.3
	Edys Mills East	0.0	172.9	277.3	139.0	99.6	48.3
	Enniskillen 26	0.1	0.1	0.0	0.0	0.0	544.9
	Logierait	0.0	0.0	0.0	0.0	0.0	345.0
	Moore 5-6-III	0.0	0.0	0.0	0.0	0.0	785.1
	Moore 2-13-VIII	0.0	0.0	0.0	0.0	0.0	0.0
	Moore 3-21-XII	98016.6	79671.2	61378.0	60946.0	5646.0	0.0
	Moore 2-22-II	0.0	0.0	0.0	0.0	0.0	2106.9

TABLE 15: CONTINUED.

COUNTY	POOL NAMES	1981	1982	1983	1984	1985	1986
Lambton (cont.)	Moore 7-27-VI	0.0	0.0	0.0	106.1	1132.5	771.3
	Oil City	0.0	0.0	2587.2	6397.8	5834.0	4876.3
	Oil Springs East	10153.0	6218.0	5794.8	4310.2	2829.6	2088.0
	Otter Creek	346.9	433.8	1090.1	966.4	845.0	657.1
	Otter Creek East	471.4	441.3	605.1	484.6	473.4	433.3
	Sarnia 1-8-A	0.0	0.0	308.7	0.0	60173.0	26947.0
	Sombra 4-9-XII	384.2	1237.7	904.7	712.2	26.0	0.0
	Sombra 2-23-XII	0.0	0.0	0.0	0.0	0.0	0.0
Oxford	Brownsville	0.0	0.0	0.0	0.0	0.0	0.0
Lake Erie	Atlas	0.0	0.0	0.0	0.0	0.0	0.0
	D'Clute	1891.6	2655.9	877.3	2122.9	2197.9	1743.2
	Erieau	0.0	0.0	0.0	0.0	0.0	0.0
	Morpeth	89008.4	94815.8	103197.8	85839.1	105008.1	92022.4
	Tilbury	14834.9	15977.1	15518.2	17902.2	17085.9	14188.4
	Subtotal - Salina/Guelph	259519.9	237570.9	227405.3	211613.6	248122.6	205869.5
	% of Ontario production	50.1	46.3	43.5	38.8	42.1	38.7
			ORDOVICIAN				
Kent	Dover	1319.8	1494.9	1209.4	1112.2	1277.8	1388.1
	Dover 7-5-V E	0.0	0.0	0.0	0.0	0.0	227.8
	Dover 7-10-VI E	44.6	47.3	112.4	103.4	107.1	51.5
Lambton	Sombra 3-26-VI	0.0	0.0	0.0	0.0	0.0	214.3
Wellington	Arthur	1135.4	1267.9	1235.6	1181.5	1216.5	1235.8
	Subtotal - Ordovician	2499.8	2810.1	2557.4	2397.1	2601.4	3117.5
	% of Ontario production	0.5	0.5	0.5	0.4	0.4	0.6
			CAMBRIAN				
Kent	St. Patricks	0.0	0.0	0.0	0.0	0.0	0.0
Oxford	Blandford 3-7-VIII	0.0	0.0	0.0	0.0	0.0	0.0
	Innerkip	6394.1	7117.2	5809.3	5708.9	4418.7	4961.2
	Innerkip East	521.4	577.4	391.9	400.4	289.8	318.1
	Subtotal - Cambrian	6915.5	7694.6	6201.2	6109.3	4708.5	5279.3
	% of Ontario production	1.3	1.5	1.2	1.1	0.8	1.0
	Total production	517700.7	512662.5	522959.6	545009.4	588745.9	531727.2
		100.0	100.0	100.0	100.0	100.0	100.0

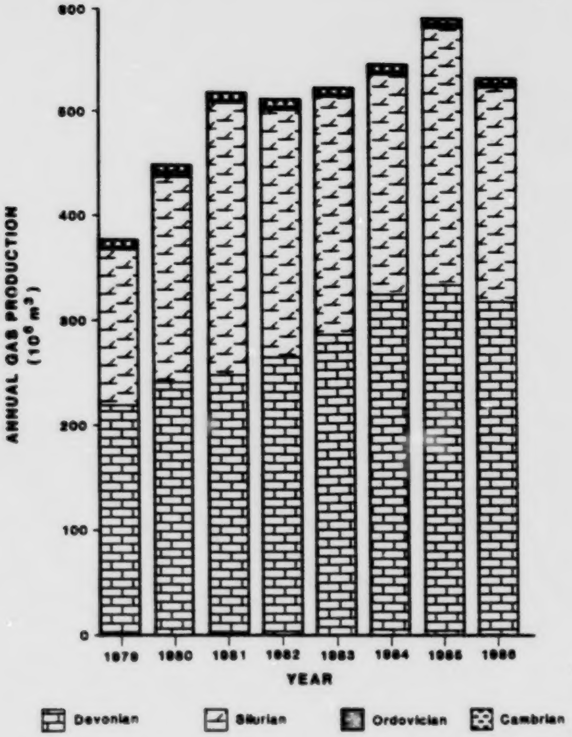

Figure 12. *Annual Gas Production by Geological Age, 1979–1986.*

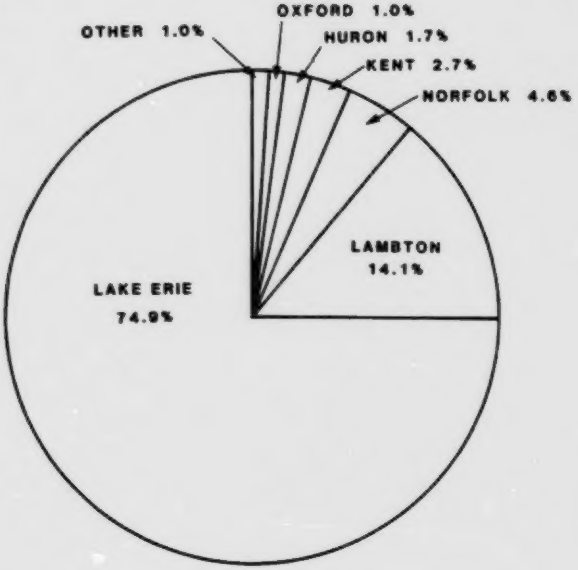

Figure 13. *Percentage Total Gas Production by Area, 1986.*

TABLE 16: LAKE ERIE GAS PRODUCTION, 1960 - 1986.

Year	Number of Active Wells	Number of Suspended Wells	1000 Cubic Metres	Average Production/ Well(1000 m^3)	Cumulative Production 1000 m^3
1960	127	17	102021.4	803.3	1083614.1
1961	145	41	92750.8	639.7	1176364.8
1962	172	49	87687.6	509.8	1264052.5
1963	168	74	100090.7	595.8	1364143.1
1964	196	63	97954.7	499.8	1462097.8
1965	225	57	105758.6	470.0	1567856.4
1966	228	60	125980.1	552.5	1693836.5
1967	200	86	117186.6	585.9	1811023.1
1968	222	81	103471.6	466.1	1914494.7
1969	223	107	117103.9	525.1	2031598.7
1970	250	90	144800.2	579.2	2176398.8
1971	268	47	143558.8	535.7	2319957.6
1972	272	59	175858.4	646.5	2495816.0
1973	285	49	181161.6	635.7	2676977.6
1974	291	73	151038.1	519.0	2828015.7
1975	272	107	160309.0	589.4	2988324.7
1976	279	114	80587.0	288.8	3068911.7
1977	320	141	157891.5	493.4	3226803.2
1978	328	100	212634.5	648.3	3439437.7
1979	344	119	213870.3	621.7	3653308.0
1980	376	NA	272426.3	724.5	3925734.3
1981	474	NA	324283.3	684.1	4250017.6
1982	444	NA	353013.6	795.1	4603031.2
1983	527	161	383651.0	728.0	4986682.2
1984	585	148	407790.0	697.1	5394472.2
1985	610	153	430784.8	706.2	5825257.0
1986	622	123	398031.1	639.9	6223288.1

TABLE 17: HISTORICAL GAS PRODUCTION, 1905-1986.

Year	Number of Producing Gas Wells	Gas Production 1000 m^3	Aver. Gas Production /Well/Year	Cumulative Gas Production
1905				1258145
1906		71788		1329933
1907		117728		1447661
1908		126994		1574655
1909		152630		1727285
1910		205754		1933039
1911		348770		2281808
1912		352820		2634629
1913		355752		2990381
1914		398369		3388750
1915		430932		3819681
1916		507893		4327574
1917		567305		4894879
1918		370171		5265050
1919		327563		5592613
1920		303938		5896551
1921	1915	241700	126	6138251
1922	1907	242721	127	6380972
1923	2004	230260	115	6611233
1924	2210	208802	94	6820035
1925	2125	205583	97	7025618

TABLE 17: CONTINUED.

Year	Number of Producing Gas Wells	Gas Production 1000 m^3	Aver. Gas Production /Well/Year	Cumulative Gas Production
1926	2126	220291	104	7245909
1927	2217	207111	93	7453020
1928	2272	216219	95	7669239
1929	2349	243143	104	7912382
1930	2452	225020	92	8137402
1931	2606	210179	81	8347581
1932	2707	209234	77	8556815
1933	2821	203016	72	8759831
1934	2977	217639	73	8977470
1935	3127	231122	74	9208592
1936	3218	283469	88	9492061
1937	3252	304420	94	9796482
1938	3273	310269	95	10106751
1939	3322	338987	102	10445738
1940	3382	369775	109	10815513
1941	3429	335082	98	11150595
1942	3503	296784	85	11447379
1943	3511	224198	64	11671577
1944	3500	200632	57	11872209
1945	3612	203960	56	12076169
1946	3696	199748	54	12275917
1947	3793	220558	58	12496475
1948	3785	243348	64	12739824
1949	3812	227309	60	12967132
1950	3938	226891	58	13194024
1951	3951	239167	61	13433191
1952	3846	235183	61	13668374
1953	NA	278618	NA	13946992
1954	3211	283726	88	14230718
1955	3103	307438	99	14538156
1956	3083	362925	118	14901082
1957	3057	407947	133	15309029
1958	2931	457438	156	15766466
1959	2900	477019	164	16243485
1960	2792	481207	172	16724692
1961	2728	412005	151	17136697
1962	2472	443282	179	17579979
1963	2449	450981	184	18030960
1964	2262	391377	173	18422336
1965	2208	359749	163	18782085
1966	2098	440134	210	19222219
1967	2043	402769	197	19624989
1968	1986	341799	172	19966788
1969	1834	318345	174	20285133
1970	1672	471643	282	20756776
1971	1439	457997	318	21214773
1972	1292	350561	271	21565333
1973	1187	269911	227	21835244
1974	1130	213506	189	22048750
1975	1083	309778	286	22358528
1976	1070	140439	131	22498966
1977	1034	241522	234	22740489
1978	1017	352997	347	23093485
1979	1078	377576	350	23471061
1980	1066	448904	421	23919965
1981	1141	517701	454	24437666
1982	1086	512663	472	24950328
1983	1169	522960	447	25473288
1984	1128	545009	483	26018297
1985	1196	588746	492	26607043
1986	1266	531727	420	27138770

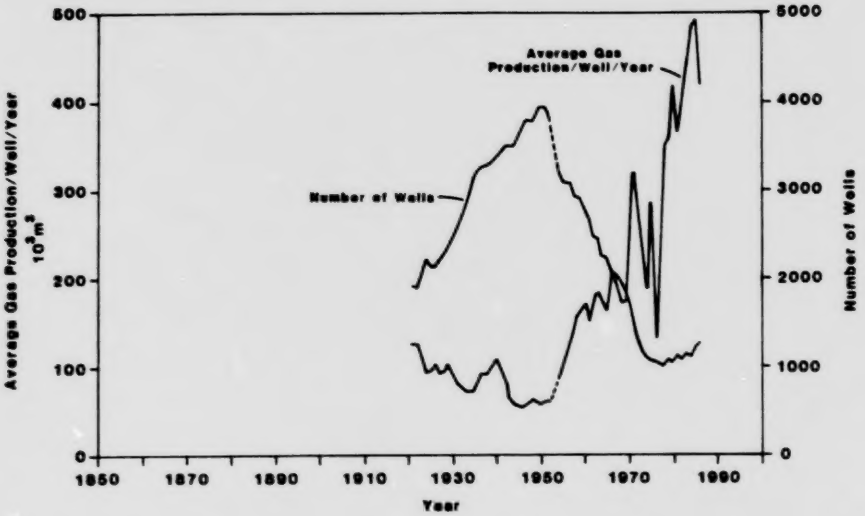

Figure 14. *Number of Producing Gas Wells and Average Gas Production/Well/Year 1921–1986.*

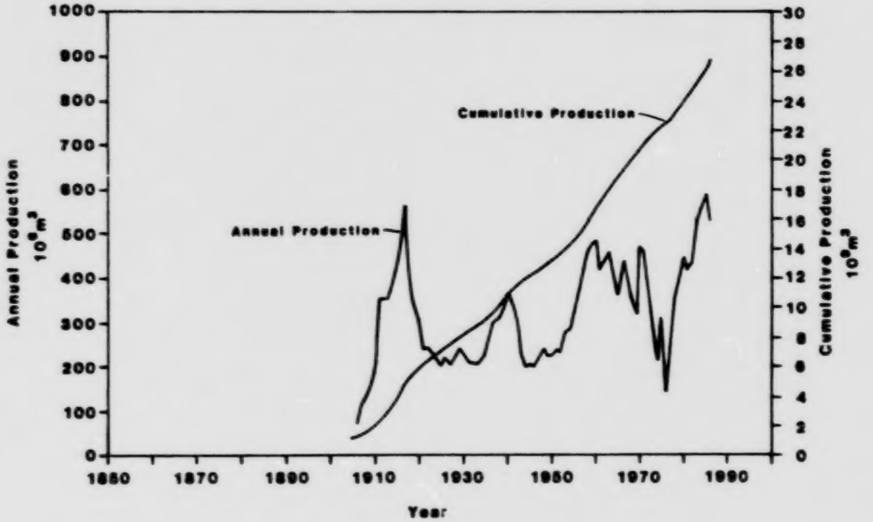

Figure 15. *Annual and Cumulative Gas Production 1906–1986.*

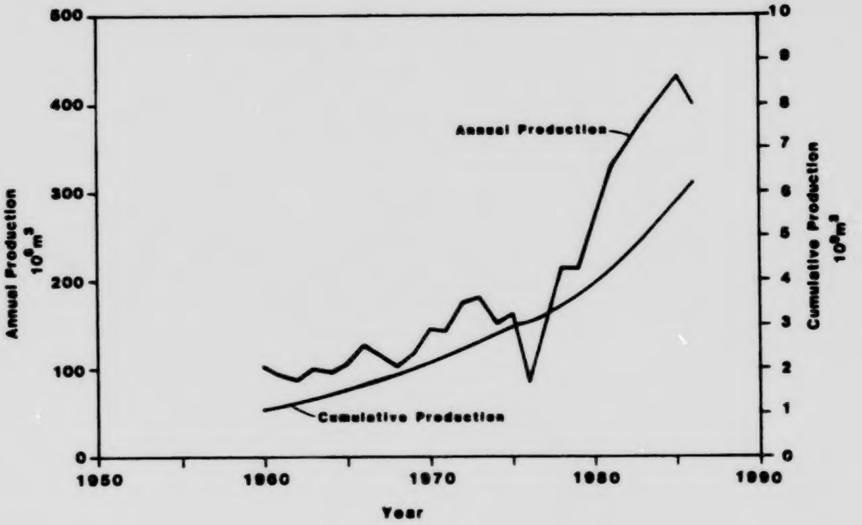

Figure 16. *Annual and Cumulative Gas Production from Lake Erie 1960–1986.*

This information is the basis for the production figures published annually by the OMNR in the "Oil and Gas Exploration, Drilling and Production Summary". The annual summary lists the annual production by field, the shut-in pressure for gas wells, the well status, and the annual production for four previous years. The data is generally of good quality and can be used for the construction of pool decline curves.

If more detailed data is required, the Forms 108 and 109 can be reviewed at the OMNR Regional Office on 659 Exeter Road, London, Ontario. Production data can also be found in pool studies submitted by operators to support applications for waterflooding or unitization. In addition, some pool studies and production records have been published in various geological journals.

Details on the initial completion of a well are submitted by the operators on OMNR Form 107, but records of recompletions and workovers are not usually found in the Ministry files. Reservoir data is usually found in pool studies submitted by operators for unitization and waterflooding operations. The OMNR has a good record of crude oil analyses, gas analyses, core analyses, drill stem test data and electrical logs. Unless the field is undergoing secondary recovery, the OMNR has no record of the quantity of water produced in association with the hydrocarbons. When a field is being waterflooded, the operator makes an annual report of the amount of water used during the year and the injection pressures. All data submitted by operators is held in the confidential files for one year.

The format of the reports completed by the operators for submission to the Ministry has changed over the years. The OMNR has records of operator's submissions for gas wells back to the year 1943 and has records for oil wells back to 1954. Although there is some gas production data submitted by operators for previous years, the first year of continuous reporting in the OMNR files is 1943. From 1943 to 1953, the form used by the operators was called "Report of Mineral Production for the use of the Ontario Department of Mines, Toronto and the Dominion Bureau of Statistics, Ottawa". Unfortunately, on this form, the gas producer did not describe the actual location of the wells in any more detail than by county and township.

In the period 1954 to 1959, the form became "Form 15, Ontario Fuel Board Act, 1954, Annual Report by Person Producing, Storing, Transmitting or Distributing Natural Gas". The form evolved into "Ontario Department of Energy Resources Form 503" in the period 1960 to 1963, and the "Energy Act 1964 Form 401" from, 1964 to 1966. In 1967 the form was revised once again and, in 1968, it became the Form 109 which is still in use at this time.

For oil production, the first year of continuous reporting is 1954, and from that year to 1959, the form was called "Form 14 Ontario Fuel Board Act". It became "Form 502 Ontario Department of Energy Resources" from 1960 to 1963 and then "Form 108 Energy Act 1964" from 1964 to 1966. Form 108 was revised in 1967 and is presently in use at this time, although conversion to metric units became effective in 1979.

Some comments of the data quality are warranted. Production data derived from various sources always contains discrepancies. In the case of oil production, some operators provide pool production data while others provide sales data or a mixture of both. The oil purchaser reports the quantity of oil received at his terminal but actually pays for that quantity of oil reduced by a factor to account for the basic sediments and water content. Other than an annoyance factor, the differences in production data arising from these cause some problems in reserve estimates for marginal wells, especially if large quantities of water are being produced.

In the case of gas production data, discrepancies occur mainly because of the different pressure bases used in the gas purchase contracts. Also, if the operator and the purchaser meter the gas separately, there is invariably a difference in the measurements. In cases where one operator produces gas from a number of wells, either in the same pool or from separate pools, the gas production is occasionally comingled and it is difficult to determine the quantity of gas produced by each well or pool. Pressure data for gas wells is usually measured at the wellhead and must be used cautiously whenever fluid could be contained in the well bore.

Typing errors, misprints and misinterpretations of the type of data requested are common in Forms 108 and 109; it is obvious that some of the forms were completed by persons not familiar with oil and gas production.

If a pool has not been unitized or was unitized after a period of production, it becomes a challenge to assemble all of the production data submitted by the various operators, correlate it and combine it into the field cumulative. The problem is compounded when one operator sells all or part of his interest to another party. Willey Pool, Elgin County, was such a case. The published production data was broken down into its components and then reassembled to result in the appearance of production data for four smaller pools, separated from the main Willey Pool.

The oil industry originated in southwestern Ontario, and as a result, the production information for the older fields is not always available or reliable. Some of this production data is published in technical papers but the best data source for the older fields is the OMNR Annual Natural Gas and Petroleum Reports. Most of the data in these reports must be accepted at face value because of the absence of supporting documents. When two sources of published information conflict, judgement must be used in selecting the appropriate data to be used for reserve calculations."

VII. Natural Gas Storage

Fifteen of the eighteen designated gas storage pools were in operation in 1986. Total gas storage working capacity when delta pressured in 1986 was 4527.2 million cubic metres. The "working capacity" of the storage pools is the reservoir volume available for injection and withdrawal of gas from the reservoir between the maximum delta pressure and the cushion pressure. In most cases the cushion pressure of storage reservoirs in Ontario is approximately 2413 kPa (reservoir pressure). Lambton County remained the centre for gas storage operations, with all but one of the active pools contained within its boundaries.

Gas storage statistics have been updated as of October 1, 1988 and are presented in Table 18. Storage capacities in the Payne, Bickford, and Terminus pools have increased since 1985 due to increased delta pressuring of these pools. The Moore 3–21–XII pool was designated as a gas storage pool by the Ontario Energy Board in 1988, bringing the total number of designated storage pools to nineteen. Total gas storage working capacity as of this date was 5090.8 million cubic metres.

During 1986, staff of the Petroleum Resources Section participated in one formal hearing, E.B.O.123, which dealt with an application by Union Gas Limited for a regulation extending the boundaries of its Bickford gas storage pool in Sombra Township, Lambton County, and for authorization to inject, store, or remove gas from the extended pool. Application for a hearing was made on June 7, 1985. After the filing of the applicant's prefiled evidence, the Petroleum Resources Section was asked by Board

TABLE 18. NATURAL GAS STORAGE.

Reservoir	Formation[1]	Status	Operator	Total Gas -In-Place When Delta Pressured 10^6m^3	Working Capacity When Delta Pressured 10^6m^3	Reservoir Pressure When Delta Pressured kPag	Original Reservoir Pressure kPag
Bentpath	G., A1	Active	Union	183.0	125.9	6916	5981
Bickford	G., A1	Active	Union	727.1	539.8	7612	6398
Corunna	G., A1	Active	Tecumseh	N.A.	138.8	7964	6502
Crowland	Whirlpool	Active	Consumers'	N.A.	14.2	4330	3447
Dawn 156	G., A1	Active	Union	870.5	591.5	6757	6047
Dawn 167	G., A1	Active	Union	200.9	101.2	6592	6247
Dawn 47-49	G., A1	Active	Union	163.0	110.7	6757	5964
Dawn 59-85	G., A1,A2	Active	Union	260.5	138.5	6757	5964
Dow Moore	G, A1	Active	Tecumseh, Union	676.8	563.6	7585	6412
Ennskillen 28	G.	Inactive	Union	115.6	N.A.	7819	5288
Kimball-Colin.	G., A1	Active	Tecumseh	N.A.	1019.8	7964	6336
Payne	G., A1	Active	Union	833.7	635.6	8219	6047
Rosedale	G., A1	Active	Union	109.6	75.6	6957	6460
Seckerton	G., A1	Active	Tecumseh	N.A.	320.1	7964	6481
Sombra	G., A1	Inactive	Union	71.2	N.A.	7612	6467
Terminus	G., A1	Active	Union	400.1	277.5	6757	6109
Waubuno	G., A1	Active	Union	328.9	245.4	6757	6419
Wilkesport	G., A1	Active	Tecumseh	N.A.	192.6	7929	6378
Zone	A1, A2	Inactive	Union	146.1	N.A.	7129	4971

Total Active Working Capacity = 5090.8

1. G = Guelph, A1 = A-1 Carbonate, A2 = A-2 Carbonate
Statistics are accurate as of October 1, 1988.

Staff to examine the applicant's evidence and to provide expert witness testimony at the hearing.

The hearing was held in Sarnia from February 18 to 21, 1986. Four witnesses testified on behalf of the applicant. R.M. Rybansky, P.A. Palonen, and R.A. Trevail testified on behalf of the Ministry of Natural Resources at the request of the Board staff. Three witnesses were called by various intervenors and five intervenors testified on their own behalf.

The main issue of the hearing was Union's contention that the gas–bearing portion of the storage pool extended to the east beyond its existing boundary, and that a producing gas well known as Baslen 18 in the northern half of lot 9, concession XII, Sombra Township was in communication with the pool. The well is owned by B. Magder Enterprises and when first drilled in 1974 was not a commercial producer. In 1979, following fracture stimulation, the well was recompleted as a gas producer.

The Bickford gas storage pool was formerly a gas–producing reef characterized by good porosity and permeability. The pool was designated as a gas storage area by Ontario Regulation 330 in 1962 and put into operation in 1972. Currently the pool has a working storage capacity of 481,106 m^3, or approximately 18% of Union's total working storage capacity. Gas storage pools such as Bickford are a valuable asset to the Province of Ontario and it is important that their integrity remain intact. It was Union's position that the Baslen 18 well threatened the integrity of the storage pool and it was in the public interest that the well be permanently shut–in by including it within the designated storage pool boundaries, within which no drilling is permitted without a reference to the Board.

In its report, the Board accepted the geological and reservoir pressure evidence submitted by the applicant and Ministry of Natural Resources witnesses which indicated that the Baslen 18 well was in communication with the Bickford pool. The Board recommended to the Lieutenant–Governor that a regulation be issued extending the existing boundaries of the pool in the manner applied for by the applicant.

VIII. Salt Cavern Storage

Table 19 provides a summary of salt cavern storage operations in southwestern Ontario. Statistics were compiled from a survey of the companies involved by the Petroleum Resources Section, and are up–to–date as of October 31, 1988.

TABLE 19: SALT CAVERN STORAGE.

Company Name	Cavern Number	Capacity (m^3)	Contents
Amoco Canada	RP-1	19 237	NGL mix
	RP-2	20 350	NGL mix
	RP-3	28 618	NGL mix
	RP-4	58 825	NGL mix
	RP-5	32 751	NGL mix
	RP-6	50 240	NGL mix
	RP-7	63 595	NGL mix
	P-1	62 800	Spec LPG
	P-2	61 200	Spec LPG
	P-3	73 930	Spec LPG
	P-4	55 170	Spec LPG
	P-5	66 770	Spec LPG
	P-6	64 230	Spec LPG
	P-7	45 310	Spec LPG
	P-8	45 310	Spec LPG
	B-1	110 650	Spec LPG
	B-2	24 960	Spec LPG
	B-3	72 970	Spec LPG
	B-4	57 710	Spec LPG
Total	19	1,023,626	
Dow Chemical Canada	HC-1	42 340	Ethylene
	HC-2	9 197	Oil
	HC-3	58 673	Ethylene
	HC-4	44 243	Ethylene
	HC-5	36 155	Ethylene
	HC-6	31 239	Ethylene
	HC-7	126 987	Brine
	HC-8	19 188	Propylene
	HC-9	39 386	Brine
	HC-10	52 262	Brine
	HC-11	21 409	Brine
	HC-12	17 746	Brine
	41-42	557 587	Inactive
	43-44	472 340	Inactive
	45-46	313 173	Brine
	47-48	712 789	Inactive
	49-50	171 354	Ethylene
	51-52	79 718	Ethylene
	53-54	616 661	Observation
	55	57 073	Observation
	56	74 062	Butane
	57-58	331 059	Brine
	59-60	254 387	Propane
	61	91 940	Brine

TABLE 19: CONTINUED.

Company Name	Cavern Number	Capacity (m^3)	Contents
Dow Chemical Canada	62	122 907	Brine
	63-64	4 072	Brine
	65-66	119 732	Brine
	67-68	81 173	Brine
	69	61 236	Brine
	70	47 266	Brine
	71-72	34 535	Brine
	73	7 930	Brine
	75	47 249	Brine
	76	23 919	Brine
	77	7 870	Brine
	78	8 079	Brine
	79	7 745	Brine
	81	24 608	Brine
	82	23 732	Brine
	83	19 724	Brine
	84	19 354	Brine
	85	17 332	Brine
Total	11 (active)	820,556	
	26 (brine)	1,672,425	
	3 (inactive)	1,811,558	
	2 (observ)	673,734	
Imperial Oil Ltd.	C-982	39 747	Ethane/Propane
-Esso Petroleum	C-981	28 618	Empty
-Esso Chemical	C-985	20 668	LPG
	C-4040	33 387	Iso-Butane
	C-4043	41 337	n-Butane
	C-4044	34 977	Propane
	C-983	31 797	Fuel gas
	C-4041	21 463	Propylene
	C-4042	38 316	Ethylene
Total	8 (active)	261,692	
	1 (inactive)	28,618	
Petrosar	1	39 680	Ethylene
	2	61 626	Ethylene
	3	15 700	Fuel gas
	4	42 900	Propylene
	5	17 900	Propane
	6	23 848	Empty
Total	5 (active)	177,806	
	1 (inactive)	23,848	
Polysar Ltd.	1	31 000	Butylene
	2	17 000	Butylene
	3	18 000	Butylene
	4	16 700	Butylene
	5	21 400	Isobutylene
	7	12 600	Butylene
Total	6	116,700	
Shell Canada Ltd.	W-1	33 400	Butane
	W-2	23 200	Butane
	W-3	15 400	Propylene
	W-4	5 500	Propylene
Total	4	67,500	

TABLE 19: CONTINUED.

Company Name	Cavern Number	Capacity (m^3)	Contents
Sun Oil Ltd.	3	22 894	Pentanes/Hexanes
	4	19 873	Propane
	5	34 570	Butane
	7	11 420	Butane/Butylene
	8	16 376	Inactive
	9	36 090	LPG Mixture
	10	16 853	LPG Mixture
	13	14 547	LPG Mixture
	14	16 025	Iso-Butane
Total	8 (active)	172,272	
	1 (inactive)	16,376	
TOTAL	61 (active)	2,640,152	
	26 (brine)	1,672,425	
	8 (inactive)	1,811,558	
	2 (observ)	673,734	

Data current as of October 31, 1988.

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Trevail, R.A., Pakvis, P.A., and Brown, S., in press, Oil and gas exploration, drilling, and production summary, 1984; Ontario Ministry of Natural Resources, Oil and Gas Paper 7.

Appendix I.
Licences Issued in 1986

TABLE I-1: PERSONS LICENCED TO LEASE OIL OR GAS RIGHTS, 1986

Licencee	City/Province	Licence #
398311 Ontario Limited	CORUNNA, Ontario	L86065
A.I.S. Resources Limited	MONTREAL, Quebec	L86066
Adanac Oil & Gas Limited	CALGARY, Alberta	L86205
Anschutz Resources Limited	CALGARY, Alberta	L86202
Atlas Oil & Gas Limited	SCARBOROUGH, Ontario	L86050
Auto Doc	MISSISSAUGA, Ontario	L86093
Bailey Geological Services Ltd.	ST. MARY'S, Ontario	L86067
Barnes, Joyce	SARNIA, Ontario	L86139
Barnes, Kenneth	SARNIA, Ontario	L86138
Bayview Explorations Limited	ST. WILLIAMS, Ontario	L86069
Beach, P.J.	ST. CATHERINES, Ontario	L86145
Bear Creek Resources Limited	TORONTO, Ontario	L86070
Beech Lane Explorations	ST. WILLIAMS, Ontario	L86002
Blackwell Petroleum Serices Ltd.	LONDON, Ontario	L86071
Bluewater Oil & Gas Limited	CALGARY, Alberta	L86072
Bogaert, H.P.	BRIGDEN, Ontario	L86003
Bonhomme, J.C.	TORONTO, Ontario	L86006
Bonus Petroleum Corp.	CALGARY, Ontario	L86159
Bowes, Paul	LONDON, Ontario	L86016
Boyce, Paul F.	LONDON, Ontario	L86017
Boychuk, Leonard J.	CHATHAM, Ontario	L86077
Brett, Douglas J.	LAMBETH, Ontario	L86010
Burgess, Bryan D.	CHATHAM, Ontario	L86123
Burt, Ross	ORANGEVILLE, Ontario	L86008
C.D. Fraser Land Services Limited	LAMBETH, Ontario	L86149
C.G. Oil Exploration Inc.	MT. BRYDGES, Ontario	L86154
Cairnlins Petroleum Services	LONDON, Ontario	L86073
Cambrian Disposals Limited	CHATHAM, Ontario	L86009
Camel Oil & Gas Limited	CALGARY, Alberta	L86074
Cameron Petroleums Limited	LAMBETH, Ontario	L86075
Campbell, Keith	MERLIN, Ontario	L86011
Canadian Occidental Petroleum Ltd.	CALGARY, Alberta	L86076
Chatham, W.T.	HAMILTON, Ontario	L86131
Chivers, John S.	LONDON, Ontario	L86063
Chupa, Terry	PORT COLBORNE, Ontario	L86164
Colonial Petroleums Limited	LONDON, Ontario	L86078
Consolidated West Petroleum Limited	PORT COLBORNE, Ontario	L86110
Craven Oil Company Limited	LONDON, Ontario	L86079
Day, R.M.	CHATHAM, Ontario	L86124
Dekker, Clarence	CHATHAM, Ontario	L86125
Devran Petroleums Limited	LONDON, Ontario	L82082
DiBono, Mary	TORONTO, Ontario	L86168
Dome Petroleum Limited	CALGARY, Alberta	L86014
Domego Resources Ltd.	TORONTO, Ontario	L86174
Doug's Land Service	PORT ELGIN, Ontario	L86061
Dow Chemical Canada Inc.	SARNIA, Ontario	L86187
Eamer, Bruce A.	CALGARY, Alberta	L86171
Elexco Limited	LONDON, Ontario	L86018
Emerson, Neill W.	DUNNVILLE, Ontario	L86024
Esso Resources Canada Ltd.	BLENHEIM, Ontario	L86084
Evon, Christine	MT. BRYDGES, Ontario	L86158

TABLE I-1: CONTINUED.

Licencee	City/Province	Licence #
Fernlea Flowers Limited	DELHI, Ontario	L86180
Filipette, Terry M.	LONDON, Ontario	L86019
Fitzgerald, Norman D.	ABILENE, Texas, U.S.A.	L86085
Ford, Harvey	SARNIA, Ontario	L86153
Fox, E.S.	WELLAND, Ontario	L86146
Francisco Petroleum Enterprises Inc.	CHATHAM, Ontario	L86086
French, Bradley W.	CHATHAM, Ontario	L86126
Fyck, Rick	LONDON, Ontario	L86176
Gaiswinkler Enterprises Ltd.	CHATHAM, Ontario	L86087
Gaiswinkler, L.F.	CHATHAM, Ontario	L86088
Glenfred Gas Wells Limited	JARVIS, Ontario	L86090
Greenside, Patrick	LONDON, Ontario	L86167
Grimes, Barry	LONDON, Ontario	L86020
Grimes, Rick	LONDON, Ontario	L86163
H. Brett & Associates Limited	LAMBETH, Ontario	L86007
Haldimand Gas & Oil Wells Ltd.	CAYUGA, Ontario	L86091
Hall, Leslie	BRIGDEN, Ontario	L86028
Hemlock Exploration Limited	LANGTON, Ontario	L86186
Herlufsen, Bent E.	LONDON, Ontario	L86021
Highbridge Exploration Ltd.	CALGARY, Alberta	L86200
Intrex Corporation	LAMBETH, Ontario	L86181
Inwood, R.	SCARBOROUGH, Ontario	L86054
J.E. English General Drilling & Well Servicing Ltd.	PORT LAMBTON, Ontario	L86083
JMCD Energy Explorations Ltd.	BRANTFORD, Ontario	L86095
Jeffery, S.J.	LONDON, Ontario	L86029
Johnson, Jeff	LONDON, Ontario	L86194
Johnson, R.D.	LONDON, Ontario	L86030
Johnstone, James	WINDSOR, Ontario	L86198
K.E. Crawford Limited	CHATHAM, Ontario	L86080
Kenartha Oil & Gas Co. Ltd.	MARKHAM, Ontario	L86098
Kenetek Explorations Inc.	PAIN COURT, Ontario	L86144
Kingdon, Ron	THEDFORD, Ontario	L86147
Klenk, William C. III	MANITOWANING, Ontario	L86152
Kriter, Robert E.	LAMBETH, Ontario	L86031
Lancaster, Joe	SCARBOROUGH, Ontario	L86055
Malo, J.	CHATHAM, Ontario	L86127
Marvan II	THAMESVILLE, Ontario	L86177
McCarthy, Marshall	CALGARY, Alberta	L86170
McKenzie, D. Ian	WATERLOO, Ontario	L86033
McKenzie, Dr. Garry D.	COLUMBUS, Ohio, U.S.A.	L86035
McLachlin, D.A.	WALLACEBURG, Ontario	L86036
McVittie, J.N.	GEORGETOWN, Ontario	L86037
Metalore Resources Limited	SIMCOE, Ontario	L86191
Michigan Oil Company	JACKSON, Michigan	L86101
Mickle, William Paul	LONDON, Ontario	L86155
Mid Eastern Oil & Gas Limited	LONDON, Ontario	L86102
Milton Resources Limited	LONDON, Ontario	L86103
Mitchell Energy Corporation	COLUMBUS, Ohio, U.S.A.	L86094
Mitchell, James	LONDON, Ontario	L86195
Mitchell, Philip	LONDON, Ontario	L86022
Moore, Bert	MARKHAM, Ontario	L86099
Morrison, Robert J.	LANGTON, Ontario	l86104
Murphy Oil Co. Ltd.	CALGARY, Alberta	L86105
Murray Rose Drilling Inc.	PORT ROWAN, Ontario	L86188

TABLE I-1: CONTINUED.

Licencee	City/Province	Licence #
Nomeco Oil & Gas Canada, Inc.	JACKSON, Michigan	L86156
Newport, Lorne T.	WARDSVILLE, Ontario	L86106
Noble, William G.	OIL CITY, Ontario	L86107
Norman, J.L.	LONDON, Ontario	L86023
Oil Field Services	MOORETOWN, Ontario	L86196
Opekar, Richard	TORONTO, Ontario	L86169
Oxford-Elgin Gas & Oil	SPRINGFIELD, Ontario	L86038
PanCanadian Petroleums Ltd.	CALGARY, Alberta	L86039
Pedrilex Corporation Ltd.	BRIGDEN, Ontario	L86150
Pembina Exploration Co. Ltd.	PORT COLBORNE, Ontario	L86109
Petro-Canada Inc.	CALGARY, Alberta	L86040
Pinetree Exploration Limited	CHATHAM, Ontario	L86116
Place Gas & Oil Co. Ltd.	TORONTO, Ontario	L86111
Proto Resources Limited	PETROLIA, Ontario	L86142
Proto-Resources and Associates	BRAMPTON, Ontario	L86193
Putman, Patricia S.	SARNIA, Ontario	L86112
R.G. Bryant Energy Associates Inc.	LONDON, Ontario	L86141
Raen Petroleum Corp.	LONDON, Ontario	L86136
Ram Petroleums Limited	TORONTO, Ontario	L86113
Rawlings Drilling Co. Ltd.	CHATHAM, Ontario	L86115
Rawlings, F.S.	CHATHAM, Ontario	L86114
Rayment, Oliver B.	CHATHAM, Ontario	L86041
Realoil Enterprises Limited	CHATHAM, Ontario	L86089
Reid, Richard Kennth	DUTTON, Ontario	L86183
Revallee Gas & Oil Company	WINDSOR, Ontario	L86189
Richards, G.W.	LONDON, Ontario	L86042
Rife, K.C.	CAMBRIDGE, Ontario	L86135
Ron Smith Well Drilling Ltd.	DENFIELD, Ontario	L86192
Rowe, J.M.	LONDON, Ontario	L86043
Rowe, Peter E.	LONDON, Ontario	L86044
Saul, Francis K.	LANGTON, Ontario	L86175
Shackleton, Alvin G.	CHATHAM, Ontario	L86128
Shawnee Petroleums Limited	TORONTO, Ontario	L86117
Shell Canada Limited	CALGARY, Alberta	L86046
Sidasa Petroleums Limited	KITCHENER, Ontario	L84048
Skidmore, Roger	RUSCOMB, Ontario	L86201
Soock, David	LONDON, Ontario	L86184
Speer, David	CALGARY, Alberta	T86190
Spelman Prentice	CASPER, Wyoming, U.S.A.	L86119
Springs Drilling Limited	OIL SPRINGS, Ontario	L86119
Talcorp Services Limited	TORONTO, Ontario	L86121
Tecumseh Gas Storge Limited	SCARBOROUGH, Ontario	L86057
The Consumers' Gas Co. Ltd.	SCARBOROUGH, Ontario	L86049
Tundra Exploration Limited	CALGARY, Alberta	L86062
Union Gas Limited	CHATHAM, Ontario	L86122
W.T. Chatham Associates Ltd.	LONDON, Ontario	L86130
Wassman, Steven C.	St. CLAIR, Michigan, U.S.A.	L86206
Wellandport Gas Company	DUNNVILLE, Ontario	L86132
Wilson, Alexander D.	LONDON, Ontario	L86134
Wilton, Harold R.	BLENHEIM, Ontario	L86064
Woodcock, P.	CHATHAM, Ontario	L86129
Zilar, Dean	TORONTO, Ontario	L86178

TABLE I-2: PERSONS LICENCED TO CONDUCT GEOPHYSICAL OR GEOCHEMICAL EXPLORATION FOR OIL OR GAS, 1986.

Licencee	City/Province	Licence #
B.G. Environmental Surveys Limited	REXDALE, Ontario	G86044
Bedford Petroleums Limited	CALGARY, Alberta	G86001
Blackwell Petroleum Services Ltd.	LONDON, Ontario	G86005
Bluewater Oil & Gas Limited	CALGARY, Alberta	G86006
Bonus Petroleum Corp.	CALGARY, Alberta	G86054
Cairnlins Petroleum Services	LONDON, Ontario	G86008
Canadian Occidental Petroleum Ltd.	CALGARY, Alberta	G86009
Cangeo Limited	OIL SPRINGS, Ontario	G86004
Chatham W.T.	HAMILTON, Ontario	G86029
Chemical Projects Limited	REXDALE, Ontario	G86030
Consolidated Explorer Petroleum Corp.	CALGARY, Alberta	G86039
Devran Petroleum Limited	LONDON, Ontario	G86011
Dome Petroleum Limited	CALGARY, Alberta	G86003
Domego Resources Ltd.	TORONTO, Ontario	G86056
Durl Hopper Limited	SEAFORTH, Ontario	G86055
E.P. Rowe Oil Limited	LONDON, Ontario	G86012
Elexco Limited	LONDON, Ontario	G86013
Enertec Geophysical Services Ltd.	CALGARY, Alberta	G86041
Fitzgerald, Norman D.	ABILENE, Texas, U.S.A.	G86014
Francisco Petroleum Enterprises Inc.	CHATHAM, Ontario	G86052
GraviMetrics Inc.	TULSA, Oklahoma, U.S.A.	G86007
H. Brett & Associates Limited	LAMBETH, Ontario	G86043
JMCD Energy Exploration Ltd.	BRANTFORD, Ontario	G86016
Kenetek Explorations Inc.	PAIN COURT, Ontario	G86033
Klenk, William C. III	MANITOWANING, Ontario	G86035
Michigan Oil Company	JACKSON, Michigan, U.S.A.	G86047
Mid Eastern Oil & Gas Limited	LONDON, Ontario	G86019
Milton Resources Limited	LONDON, Ontario	G86020
Mitchell Energy Corporation	PORT DOVER, Ontario	G86015
Murphy Oil Co. Ltd.	COLUMBUS, Ohio, U.S.A.	G86051
Paladin Petroleum Corporation	TORONTO, Ontario	G86031
Place Gas & Oil Co. Ltd.	TORONTO, Ontario	G86050
Ram Petroleums Limited	TORONTO, Ontario	G86023
Reid, Richard Kennth	DUTTON, Ontario	G86048
Spelman Prentice	CASPER, Wyoming, U.S.A.	G86024
Springs Drilling Limited	OIL SPRINGS, Ontario	G86025
Tecumseh Gas Storage Limited	SCARBOROUGH, Ontario	G86053
The Consumers'Gas Co. Ltd.	SCARBOROUGH, Ontario	G86026
Tundra Exploration Limited	CALGARY, Alberta	G86049
Union Gas Limited	CHATHAM, Ontario	G86027
W.T. Chatham Associates	LONDON, Ontario	G86028

TABLE I-3: OWNERS OF LICENCED MACHINES FOR BORING, DRILLING OR PLUGGING WELLS, 1986.

Licencee	City/Province	Licence #
B&S Rotary Drilling Ltd.	CORUNNA, Ontario	M86006
Bear Creek Resources Limited	TORONTO, Ontario	M86007
Bender, Harold E.	PETROLIA, Ontario	M86075
Bothwell Drilling & Servicing Ltd.	LAMBETH, Ontario	M86008
Bothwell Drilling & Servicing Ltd.	LAMBETH, Ontario	M86009
Bothwell Drilling & Servicing Ltd.	LAMBETH, Ontario	M86074
Charles G. Stevenson Drilling Ltd.	DRESDEN, Ontario	M86064
Charles G. Stevenson Drilling Ltd.	DRESDEN, Ontario	M86082
Charles G. Stevenson Drilling Ltd.	DRESDEN, Ontario	M86093
Charles G. Stevenson Drilling Ltd.	DRESDEN, Ontario	M86094
Charles Shaw Drilling Ltd.	FLORENCE, Ontario	M86010
Charles Shaw Drilling Ltd.	FLORENCE, Ontario	M86011
Charles Shaw Drilling Ltd.	FLORENCE, Ontario	M86012
Charles Shaw Drilling Ltd.	FLORENCE, Ontario	M86013
Circle A Drilling Inc.	DRESDEN, Ontario	M86058
Circle A Drilling Inc.	DRESDEN, Ontario	M86059
Corunna Drilling Limited	CORUNNA, Ontario	M86063
D.S.I.L. Drilling Inc.	SCARBOROUGH, Ontario	M86014
Davidson Well Drilling Limited	WINGHAM, Ontario	M86015
Degrow, Leland M.	YORK, Ontario	M86016
Durl Hopper Limited	SEAFORTH, Ontario	M86017
Eagle Drilling Services Inc.	DRESDEN, Ontario	M86019
Elgin Mitchell & Sons	SIMCOE, Ontario	M86067
Elgin Mitchell & Sons	SIMCOE, Ontario	M86068
Elgin Mitchell & Sons	SIMCOE, Ontario	M86069
Elgin Mitchell & Sons	SIMCOE, Ontario	M86070
Elgin Mitchell & Sons	SIMCOE, Ontario	M86091
Faulkner Well Drilling Co. Ltd.	PETERBOROUGH, Ontario	M86021
HLH Drilling, Inc.	ANDOVER, Ohio, U.S.A.	M86089
Instant Water Wells Ltd.	WILLIAMSBURG, Ontario	M86022
International Water Supply Ltd.	BARRIE, Ontario	M86023
J.E. English General Drilling & Well Servicing Ltd.	PORT LAMBTON, Ontario	M86024
James Newport Drilling Limited	OIL SPRINGS, Ontario	M86025
James Newport Drilling Limited	OIL SPRINGS, Ontario	M86026
Kingdon, Ron	THEDFORD, Ontario	M86060
Longyear Canada Inc.	NORTH BAY, Ontario	M86027
Longyear Canada Inc.	NORTH BAY, Ontario	M86028
Longyear Canada Incorporated	CONCORD, Ontario	M86029
Montgomery Bros.	SELKIRK, Ontario	M86032
Murray Rose Drilling Inc.	PORT ROWAN, Ontario	M86033
Murray Rose Drilling Inc.	PORT ROWAN, Ontario	M86034
Murray Rose Drilling Inc.	PORT ROWAN, Ontario	M86035
Newport, Lorne T.	WARDSVILLE, Ontario	M86030
Newport, Lorne T.	WARDSVILLE, Ontario	M86031
Newport, Lorne T.	WARDSVILLE, Ontario	M86088
Pedrilex Corporation Ltd.	BRIGDEN, Ontario	M86061
Pembina Exploration Co. Ltd.	PORT COLBORNE, Ontario	M86071
Pembina Exploration Co. Ltd.	PORT COLBORNE, Ontario	M86072
Place Gas & Oil Co. Ltd.	TORONTO, Ontario	M86038
Place Gas & Oil Co. Ltd.	TORONTO, Ontario	M86039

TABLE I-3: CONTINUED.

Licencee	City/Province	Licence #
Rawlings Drilling Co. Ltd.	CHATHAM, Ontario	M86040
Rawlings Drilling Co. Ltd.	CHATHAM, Ontario	M86041
Rawlings Drilling Co. Ltd.	CHATHAM, Ontario	M86042
Rawlings Drilling Co. Ltd.	CHATHAM, Ontario	M86043
Rawlings Drilling Co. Ltd.	CHATHAM, Ontario	M86044
Rawlings Drilling Co. Ltd.	CHATHAM, Ontario	M86086
Red Rig Oil Field Servicing Ltd.	SOMBRA, Ontario	M86081
Robins, Glenn	DUNNVILLE, Ontario	M86084
Ron Smith Well Drilling Ltd.	DENFIELD, Ontario	M86046
Ron Smith Well Drilling Ltd.	DENFIELD, Ontario	M86047
Rose, Charles	PORT ROWAN, Ontario	M86048
S.J. Akinson & Son Drilling	PETROLIA, Ontario	M86049
Underwater Gas Developers Ltd.	SHERKSTON, Ontario	M86051
Underwater Gas Developers Ltd.	SHERKSTON, Ontario	M86052
Underwater Gas Developers Ltd.	SHERKSTON, Ontario	M86080
Underwater Gas Developers Ltd.	SHERKSTON, Ontario	M86083
Union Gas Limited	CHATHAM, Ontario	M86055
Varga Bros.	CALEDONIA, Ontario	M86055
Vye, Frank	BRIGDEN, Ontario	M86087
Wellington Newport & Sons Ltd.	WARDSVILLE, Ontario	M86053
Wrights, John	MINDEMOYA, Ontario	M86092

TABLE I-4: PERSONS LICENCED TO PRODUCE OIL AND GAS, 1986.

Licencee	City/Province	Licence #
398311 Ontario Limited	CORUNNA, Ontario	P86069
490960 Ontario Limited	SARNIA, Ontario	P98001
625052 Ontario Limited	PETROLIA, Ontario	P86061
6251348 Ontario Limited	SARNIA, Ontario	P86151
A.I.S. Resources Limited	MONTREAL, Quebec	P86070
Adanac Oil & Gas Limited	CALGARY, Alberta	P86167
Annett, Robert	BOTHWELL, Ontario	P86118
Avonry Gas Company Limited	PETROLIA, Ontario	P86143
Ayrheart, Ellwood J.	OIL SPRINGS, Ontario	P86004
Ayrheart, Orval & Irene	PETROLIA, Ontario	P86005
Ayrheart, Roy	PETROLIA, Ontario	P86006
Bailey Geological Services Ltd.	ST. MARY'S, Ontario	P86071
Baldwin David L.	SARNIA, Ontario	P86007
Barnes, Lonnie	OIL SPRINGS, Ontario	P86008
Bayview Explorations Limited	ST. WILLIAMS, Ontario	P86072
Bear Creek Resources Limited	TORONTO, Ontario	P86073
Bedford Petroleums Limited	CALGARY, Alberta	P86074
Beech Lane Explorations	ST. WILLIAMS, Ontario	P86134
Bender, Harold E.	PETROLIA, Ontario	P86009
Blackwell Petroleum Services Ltd.	LONDON, Ontario	P86075
Bluewater Oil & Gas Limited	CALGARY, Alberta	P86076
Bonus Petroleum Corp.	CALGARY, Alberta	P86139
Bradley, Murray	PETROLIA, Ontario	P86010
Bradley, Richard	PETROLIA, Ontario	P86142
Brand, Walt	PETROLIA, Ontario	P86011
Brookwood Oils Inc.	LONDON, Ontario	P86012
Byers, I.	OIL SPRINGS, Ontario	P86124
C.D. Fraser Land Services Limited	LAMBETH, Ontario	P86152
Cairnlins Petroleum Services	LONDON, Ontario	P86153
Camel oil & Gas Limited	CALGARY, Alberta	P86077
Cameron Petroleums Limited	LAMBETH, Ontario	P86078
Canadian Games Network Inc.	TORONTO, Ontario	P86159
Canadian Occidental Petroleum Ltd.	CALGARY, Ontario	P86079
Cartier Resources Inc.	TORONTO, Ontario	P86014
Charles Fairbank Oil Prop.	PETROLIA, Ontario	P86015
Chatham, W.T.	HAMILTON, Ontario	P86115
Colonial Petroleums Limited	LONDON, Ontario	P86080
Comfort, N.E.	CHATHAM, Ontario	P86016
Consolidated Explorer Petroleum Corp.	CALGARY, Alberta	P86137
Consolidated West Petroleum Limited	PORT COLBORNE, Ontario	P86104
Corden, Bruce P.Eng.	ST. CLAIR, Michigan	P86120
Craven Oil Company Limited	CHATHAM, Ontario	P86081
Crich Holdings and Buildings Ltd.	LONDON, Ontario	P86150
D.W. Matheson Electric Ltd.	OIL SPRINGS, Ontario	P86017
Dark Resources Ltd.	CALGARY, Alberta	P86123
Den-Mar Brines Limited	BOTHWELL, Ontario	P86018
Devran Petroleums Limited	LONDON, Ontario	P86083
Dome Petroleum Ltd.	SARNIA, Ontario	P86019
Domego Resources Ltd.	TORONTO, Ontario	P86146
Donald Estate, Heln Mothersbough	OIL SPRINGS, Ontario	P86020
Dow Chemical Canada Inc.	SARNIA, Ontario	P86021
E.P. Rowe Oil Limited	LONDON, Ontario	P86023
Edward, R.A.	PETROLIA, Ontario	P86024
Elgin Mitchell & Sons	SIMCOE, Ontario	P86166
Emerson, Neill W.	DUNNVILLE, Ontario	P86157
Esso Resources Canada Ltd.	BLENHEIM, Ontario	P86084
F & M Resources Ltd.	LANGTON, Ontario	P86147
Farrants, Robert A.	THAMESVILLE, Ontario	P86122

TABLE I-4: CONTINUED.

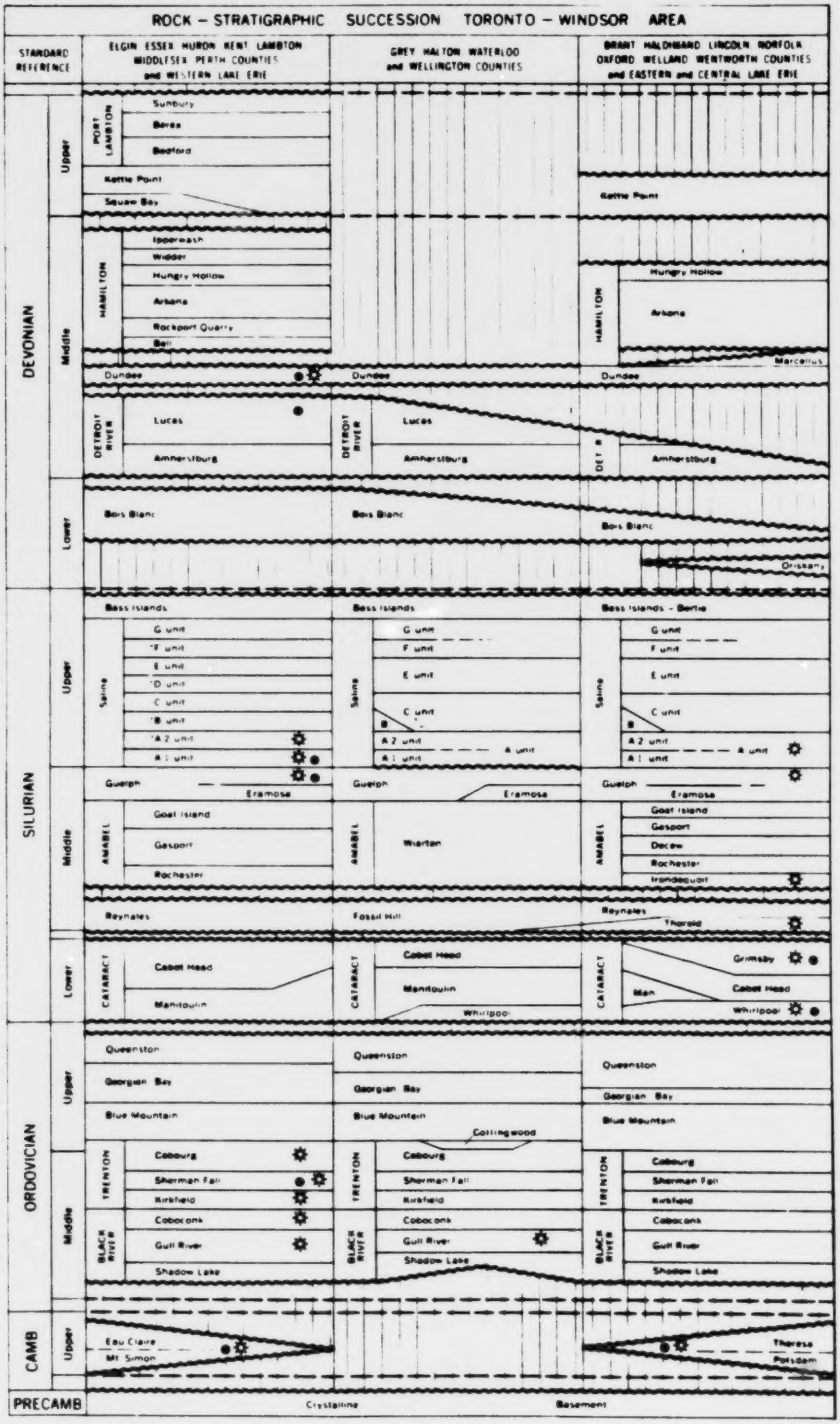
Licencee	City/Province	Licence #
Fernlea Flowers Limited	DELHI, Ontario	P86154
Fisherville Gas Limited	SIMCOE, Ontario	P86025
Fitzgerald, Norman D.	ABILENE, Texas, U.S.A.	P86085
Forbes Resources Inc.	LONDON, Ontario	P86026
Fox, E.S.	WELLAND, Ontario	P86129
Francisco Petroleum Enterprises Inc.	CHATHAM, Ontario	P86086
Freeman, Donald G.	PORT ROWAN, Ontario	P86027
G.W. Clark Oil & Gas Company	LAMBETH, Ontario	P86164
Gaiswinkler Enterprises Ltd.	CHATHAM, Ontario	P86087
George Hyslop Limited	OHSWEKEN, Ontario	P86029
Glencoe Waterflood Inc.	GLENCOE, Ontario	P86028
Glenfred Gas Wells Limited	JARVIS, Ontario	P86089
Golden Hubris Inc.	TORONTO, Ontario	P86030
H. Brett & Associates Limited	LAMBETH, Ontario	P86031
Haldimand Gas & Oil Wells Ltd.	CAYUGA, Ontario	P86090
Hemlock Explorations Limited	LANGTON, Ontario	P86091
Highbridge Exploration Ltd.	CALGARY, Alberta	P86163
Intrex Corporation	LAMBETH, Ontario	P86145
J.W.K. Administration & Associates Ltd.	BRANTFORD, Ontario	P86032
JMCD Energy Exploration Ltd.	BRANTFORD, Ontario	P86094
Johnston, Ross	OIL SPRINGS, Ontario	P86054
Jourika Gas	TILLSONBURG, Ontario	P86033
K.E. Crawford Limited	CHATHAM, Ontario	P86082
Kenartha Oil & Gas C. Ltd.	MARKHAM, Ontario	P86095
Kingdon, Ron	THEDFORD, Ontario	P86130
Klenk, William C. III	MANITOWANING, Ontario	P86133
Kodyen, L.M.	DRESDEN, Ontario	P86034
LMG Oils Limited	LONDON, Ontario	P86035
Lambton Area Industries Ltd.	PETROLIA, Ontario	P86036
Lincoln Natural Gas Ltd.	DUNNVILLE, Ontario	P86037
Lyons, Wilson & Baines Oil Producers	PETROLIA, Ontario	P86119
Marr, Harvey	WAINFLEET, Ontario	P86038
Marvan II	THAMESVILLE, Ontario	P86148
Metalore Resources Limited	SIMCOE, Ontario	P86039
Michigan Oil Company	JACKSON, Michigan	P86096
Milton Resources Limited	LONDON, Ontario	P86097
Mitchell Energy corporation	PORT DOVER, Ontario	P86093
Mitchell, Gerals	OIL SPRINGS, Ontario	P86040
Morningstar Oil Producers Ltd.	OIL SPRINGS, Ontario	P86042
Morningstar, Lorna	OIL SPRINGS, Ontario	P86041
Morrison, Doris	LANGTON, Ontario	P86098
Morrison, Robert J.	LANGTON, Ontario	P86100
Murphy Oil Co. Ltd.	CALGARY, Alberta	P86101
Nablis Enterprises Limited	WHEATLEY, Ontario	P86149
Natural Resources Gas Limited	LONDON, Ontario	P86043
Nith River Petroleums Ltd.	CAMBRIDGE, Ontario	P86044
Noble, William G.	OIL CITY, Ontario	P86102
Oil Field Services	MOORETOWN, Ontario	P86162
Oilfinders' Group	LAMBETH, Ontario	P86165
Ort, C.H.	NIAGARA FALLS, Ontario	P86045
Paladin Petroleum Corporation	TORONO, Ontario	P86125
Patterson Oil Development	ERIEAU, Ontario	P86046
Pedrilex Corporation Ltd.	BRIGDEN, Ontario	P86131

TABLE I-4: CONTINUED.

Licencee	City/Province	Licence #
Pegg, Leonard A.	MORPETH, Ontario	P86047
Pembina Exploration Co. Ltd.	PORT COLBORNE, Ontario	P86103
Petrolia Discovery Foundation Inc.	PETROLIA, Ontario	P86048
Place Gas & Oil Co. Ltd.	TORONTO, Ontario	P86105
Pope, William	BOTHWELL, Ontario	P86049
Proto Resources & Associates	PETROLIA, Ontario	P86138
Putman, Patricia s.	SARNIA, Ontario	P86106
R.G. Bryant Energy Associates Inc.	LONDON, Ontario	P86126
Raen Petroleum corp.	LONDON, Ontario	P86117
Ram Petroleums Limited	TORONTO, Ontario	P86107
Rayrock Resources Limited	CHATHAM, Ontario	P86051
Realoil Enterprises Limited	CHATHAM, Ontario	P86088
Reid, Richard Kennth	DUTTON, Ontario	P86155
Revallee Gas & Oil Company	WINDSOR, Ontario	P86052
Riddell Hanna Exploration Ltd.	DEARBORN HEIGHTS, Michigan	P86053
Roth and Roth Limited	BOTHWELL, Ontario	P86144
Ruch, K.	STEVENSVILLE, Ontario	P86055
S&W Oil Company	WATFORD, Ontario	P86056
Sasko Oil and Gas Limited	DUTTON, Ontario	P86057
Shawnee Petroleums Limited	TORONTO, Ontario	P86108
Simon, B.	STEVENSVILLE, Ontario	P86058
Sitler, Delbert	WARDSVILLE, Ontario	P86059
South-West Petroleum Co.	WINDSOR, Ontario	P86060
Springs Drilling Limited	OIL SPRINGS, Ontario	P86109
Sunburst Oil Company	LAMBETH, Ontario	P86110
Sylab Incorporated	PETROLIA, Ontario	P86128
Talcorp Services Limited	TORONTO, Ontario	P86111
Tecumseh Gas Storage Limited	SCARBOROUGH, Ontario	P86158
The Consumers' Gas Co. Ltd.	SCARBOROUGH, Ontario	P86112
Union Gas Limited	CHATHAM, Ontario	P86113
Vye, Frank	BRIGDEN, Ontario	P86065
W.T. Chatham Associates Ltd.	LONDON, Ontario	P86114
Wellandport Gas Company	DUNNVILLE, Ontario	P86116
Willoyd Limited	STEVENSVILLE, Ontario	P86121
Woods, Lloyd	OIL SPRINGS, Ontario	P86066
York Producing Co. Ltd.	BOLIVAR, New York, U.S.A.	P86067
Zdriluk, Alberta M.	WATERFORD, Ontario	P86068

Appendix II.
Composite Stratigraphic Column

Figure 17. *Composite Stratigraphic Column.*


ROCK – STRATIGRAPHIC SUCCESSION TORONTO – WINDSOR AREA
STANDARD REFERENCE
ELGIN ESSEX HURON KENT LAMBTON MIDDLESEX PERTH COUNTIES and WESTERN LAKE ERIE
GREY HALTON WATERLOO and WELLINGTON COUNTIES
BRANT HALDIMAND LINCOLN NORFOLK OXFORD WELLAND WENTWORTH COUNTIES and EASTERN and CENTRAL LAKE ERIE
DEVONIAN
Upper
PORT LAMBTON
Sunbury
Berea
Bedford
Kettle Point
Squaw Bay
Middle
HAMILTON
Ipperwash
Widder
Hungry Hollow
Arkona
Rockport Quarry
Bell
Marcellus
Dundee
DETROIT RIVER
DET R
Lucas
Amherstburg
Lower
Bois Blanc
Oriskany
SILURIAN
Bass Islands
Bass Islands – Bertie
Salina
G unit
F unit
E unit
D unit
C unit
B unit
A 2 unit
A 1 unit
A unit
Guelph
Eramosa
AMABEL
Goat Island
Gasport
Decew
Rochester
Irondequoit
Wiarton
Reynales
Fossil Hill
Thorold
CATARACT
Cabot Head
Manitoulin
Whirlpool
Grimsby
Man
ORDOVICIAN
Queenston
Georgian Bay
Blue Mountain
Collingwood
TRENTON
Cobourg
Sherman Fall
Kirkfield
BLACK RIVER
Coboconk
Gull River
Shadow Lake
CAMB
Eau Claire
Mt Simon
Theresa
Potsdam
PRECAMB
Crystalline
Basement

Appendix III. List Of Publications And Maps

The following publications and maps are available from the following sources:

Reports and Maps (personal shopping or mail order)

The Public Service Centre, Ministry of Natural Resources, Room 1640, Whitney Block, Queens Park, Toronto, Ontario, M7A 1W3. Telephone (416) 965-1348.

Reports and Accompanying Maps (mail or telephone orders)

Publication Services Section, Ministry of Government Services 5th Floor, 880 Bay Street, Toronto, Ontario, M7A 1N8 Telephone (416) 965-6015.

Open File Reports

Mines Library, Ministry of Northern Development and Mines Room 812, 77 Grenville Street, Toronto, Ontario, M7A 1W4. Telephone (416) 965-1352.

Orders should be accompanied by cheque or money order, payable to the Treasurer of Ontario.

Annual Reports

	Price
Annual Report, 1954, Ontario Fuel Board	$ 1.00
Annual Reports, 1960, 1966, 1967, 1969, 1970	1.00
Annual Reports, 1971, 1972, 1973, 1974	5.00
Oil and Gas Paper 1, 1978	10.00
Oil and Gas Papers 2-8, 1979-1985	20.00

Ontario Geological Survey – Open File Reports

OFR 5498 Evaluation of the Conventional and Potential Oil and Gas Reserves of the Ordovician of Ontario; by Bailey Geological Services Ltd. and Robert O. Cochrane, 1984, 77p., 8 appendices, 35 figures

OFR 5499 Evaluation of the Conventional and Potential Oil and Gas Reserves of the Cambrian of Ontario; by Bailey Geological Services Ltd. and Robert O. Cochrane, 1984, 72p., 8 appendices, 29 figures

OFR 5555 Evaluation of the Conventional and Potential Oil and Gas Reserves of the Devonian of Ontario, by Bailey Geological Services Ltd. and Robert O. Cochrane, 1985, 178p., 9 appendices, and 46 figures.

OFR 5578 Evaluation of Conventional and Potential Oil and Gas Reserves of the Silurian Sandstone Reservoirs of Ontario; by Bailey Geological Services Ltd. and Robert O. Cochrane, 1985, 275p., 12 appendices, and 39 figures.

Ontario Geological Survey – Petroleum Resources P. Number Maps Available at a Scale of 1:250,000

All P. Number Maps are 50 cents each unless otherwise specified.

P.2625	Structure Top Trenton Group, North West Area, Southern Ontario
P.2626	Structure Top Trenton Group, South West Area, Southern Ontario
P.2627	Structure Top Trenton Group, South Central Area, Southern Ontario
P.2628	Structure Top Trenton Group, North Central Area, Southern Ontario
P.2629	Structure Top Trenton Group, Eastern Area, Southern Ontario
P.2630	Structure Top Ordovician Carbonate, Ottawa Lowlands Area, Southern Ontario
P.2631	Structure Top Black River Group, North West Area, Southern Ontario
P.2632	Structure Top Black River Group, South West Area, Southern Ontario
P.2633	Structure Top Black River Group, South Central Area, Southern Ontario
P.2634	Structure Top Black River Group, North Central Area, Southern Ontario
P.2635	Structure Top Black River Group, Eastern Area, Southern Ontario
P.2637	Isopach Trenton Group, North West Area, Southern Ontario
P.2638	Isopach Trenton Group, South West Area, Southern Ontario
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Miscellaneous Publications

Paper 70-2 Gas Analysis Ontario Gas Wells	1.00
Paper 70-4 Supplement to Catalogue of Ontario Well Samples at the Geological Survey of Canada	1.00
Minutes and Seconds expressed as Decimal parts of a Degree MP/3	no charge
Petroleum Possibilities of the James Bay Lowland Area - Volume 61, Part 6 (maps included), 1952	1.50
Industrial Mineral Report No. 6, Salt in Ontario by D.F. Hewitt, 1962	1.50

MAPS

The following maps and copies of well history cards and related technical information may be obtained by writing to: Petroleum Resources Section, Ministry of Natural Resources, P.O. Box 5463, London, Ontario N6A 4L6 (519-661-2766).

Well history cards may also be obtained at the Petroleum Resources Laboratory (519-661-2796).

Well Location And Status (Current)

NTS Series - Key Map
Scale 1:30,000 $1.50 each

A2, 3, (3A Pelee Island)
B1 to 5 (inclusive)
C1 to 7 (inclusive)

D1 to 13 (inclusive)
E4 to 18 (inclusive)
F4 to 17 (inclusive)
G6 to 10 (inclusive)
H7 to 9 (inclusive)
17 to 9 (inclusive)
J7 to 8 (inclusive)
K7 to 8 (inclusive)
Q5 to 6 (Manitoulin Island)

Lake Erie

Scale 1:50,000
Showing Well and Pipeline Locations (West Longitude) 3.00 each

Lake Erie Map A	79 30' – 78 55'
Lake Erie Map B	80 00' – 79 30'
Lake Erie Map C	80 30' – 80 00'
Lake Erie Map D	81 00' – 80 30'
Lake Erie Map E	81 31' – 81 00'
Lake Erie Map F	82 00' – 81 30'
Lake Erie Map G	82 30' – 82 00'
Lake Erie Map H	83 10' – 82 30'

Geological Maps

Geology Toronto-Windsor Area
1263A (1969)
Scale 1:250,000 2.50 each

Field And Pool Maps

Scale 1:20,000 1.00 each

Aldborough 4-20-VII
Arthur
Colchester
Becher West
Bentpath
Bickford
Brigden
Clearville
Corunna
Corey East
Courtright
Coveny
Cromar
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Dawn 4-28-III
Dawn 4-33-IX
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Rodney
Rosedale
Ruscom River
Sarnia 1-8-A
St. Patricks
Sombra
Terminus-Terminus North
Tipperary-Tipperary South
Townsend
Venison Creek
Verscoyle West
Waubuno
Wilkesport
Willey
Willey North
Wilsonville
Wilsonville South Zone

Oil And Gas Pool & Pipeline Map Of Southwestern Ontario, P2499

Scale 1:250,000 1.50 each

Location Of Seismic Lines, Southwestern Ontario

Scale 1:100,000 .50 each

1979 7 Maps P2573 to P2579 (inclusive)

1980 8 Maps P2707 to P2714 (inclusive)

XEROX FACILITIES

Xerox copies of all production reports, engineering .25 each reports, core analyses and well history cards

MICROFICHE

Hudson Bay – James Bay Microfiche Index Assessment Reports. These reports are out-of-print. A set of reports is on file at the Petroleum Resources Laboratory.

INDEX NUMBER	CONTENTS
A	Field report general geological reconnaisance of Hudson Bay – summer 1908
B	Detailed geomorphic evaluation of James Bay
C	Detailed geomorphic evaluation James Bay Lowlands Aquintaine (compiled by geophoto)
D	Studies of samples collected around the Hudson Bay Lowlands & Northern Islands – Canada summer 1968. Comparisons with Kaskattama No. 1 well – 1969
E	Aeromagnetic interpretation for part of Moosonee River Basin, District of Cochrane, Aquintaine 1969
F	Aerial magnetic interpretation Moose River area, Mid-eastern Oil and Gas Ltd., Anthony Oil and Gas Explorations Ltd., Dolphin Explorations Ltd.
G	Gravity survey, Moose River area, Mid-eastern Oil & Gas Ltd., Anthony Oil & Gas Ltd., Dolphin Explorations Ltd.
H	Gravity survey, Fort Severn Area, Mid-eastern Oil & Gas Ltd., Anthony Oil & Gas Explorations Ltd., Dolphin Explorations Ltd.
I	Aerial magnetic interpretation, Fort Severn area, Mid-eastern Oil & Gas Ltd., Anthony Gas & Oil Explorations Ltd., Dolphin Explorations Ltd.
J	Aerial magnetic interpretation, Moose River area, Transalta Oil & Gas Ltd.
K	Gravity Survey, Moose River area, Transalta Oil & Gas Ltd.
L	Transalta – Geological Report, Licence No. 14502 and 14503 – James Bay
M	Aquintaine – Laboratory Report Pen. No. 1 Well
N	Bluewater – geomorphic evaluation, Moose River Basin
O	Bluewater – G.S.C. Magnetic Data, James Bay
P	Bluewater – Geology, James Bay
Q	Mariner – geology and petroleum possibilities, Moose River Basin
R	Quintaine – Palynoplanktogical study, Sandbank Lake No. 1 Well
S	Consumers' – Aeromagnetic interpretation, James Bay
T	Consumers' – Interpretation of G.S.C. Aeromagnetic Survey Soweska River, James Bay
U	Aquitaine – 1. High Sensitivity Aeromagnetic Survey, James Bay. 2. Refraction and gravity, James Bay
V	Aquitaine – Refraction and gravity survey, Hambly Lake Well No. 1
W	Consumers' – Aeromagnetic Survey, Martinson Lake Report on Airborne Magnetometer surveys for Aquitaine – James Bay Lowlands (not microfilmed)

OUT OF PRINT

Out of print originals are on file with the Mines Library, MNDM, 77 Grenville St., Room 812, Toronto, Ontario, N5S 1B3(416-965-1352)

Annual Reports for 1920-1953, 1955-1959, 1961-1965, 1967, 1968.

Paper 67-2. A Guide to the Subsurface Paleozoic Stratigraphy of Southern Ontario, by R.J. Beards.

Paper 68-2. Subsurface Disposal of Liquid Wastes in Ontario, by D.D. McLean.

Paper 71-2. Structural Geology of Southwestern Ontario and Southeastern Michigan, by Robert J. Brigham.

Paper 73-2. The Oil and Gas Potential of the "Clinton-Cataract" Reservoirs of

Norfolk County, by T.A. MacDougall.

Report of the Committee on Oil and Gas Resources Part 1 (Offshore Activity – 1961) Part 2 (Underground Storage of Natural Gas – 1962).

Index of Ordovician and Cambrian Wells Drill in Southwestern Ontario Prior to 1963, by D.A. Sharp.

Paper 11–1a. Background paper on Ontario Petroleum Resources.

Offshore Exploration in Great Lakes Region, by Bryson C. Donnan, 1961.

Geological Circular 7. Offshore Exploration for Gas Under the Canadian Waters of the Great Lakes, by A.C. Newton and W.E. Koepke, 1964.

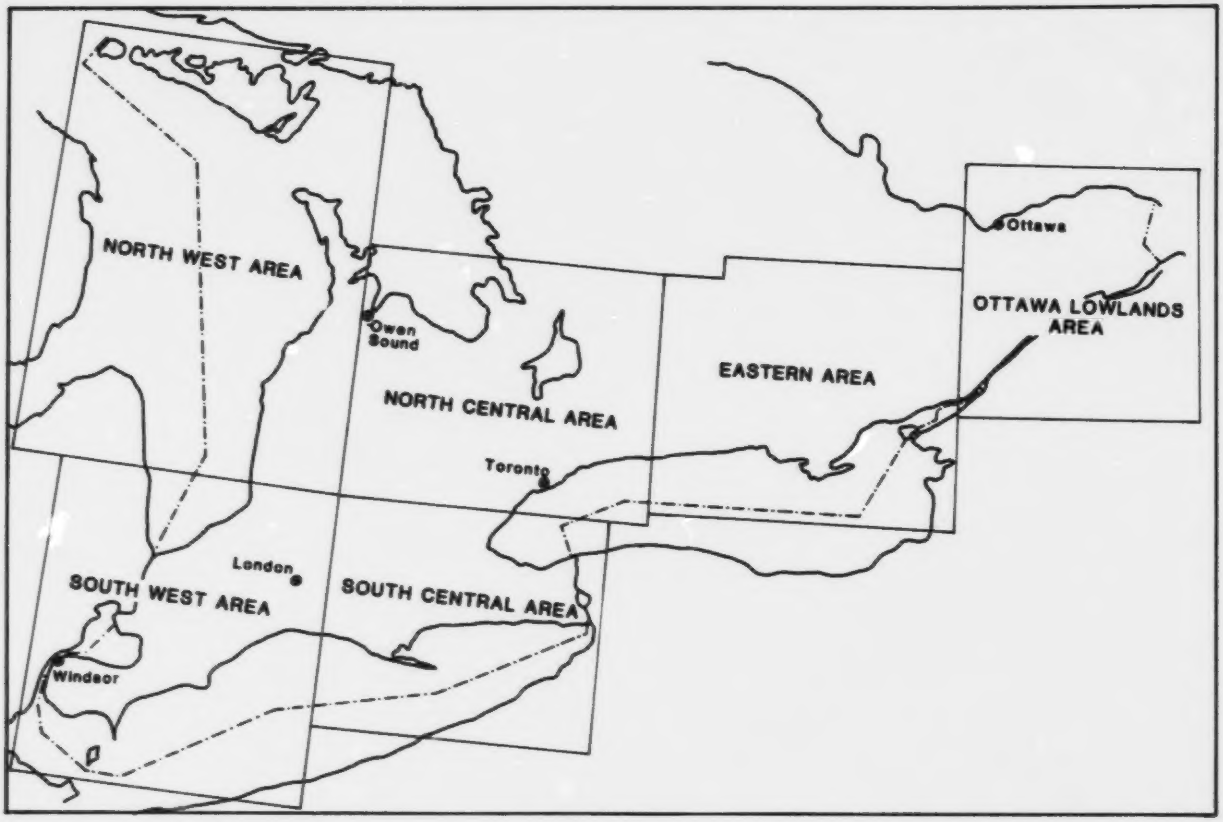
NORTH WEST AREA
Owen Sound
NORTH CENTRAL AREA
Toronto
EASTERN AREA
Ottawa
OTTAWA LOWLANDS AREA
London
SOUTH WEST AREA
SOUTH CENTRAL AREA
Windsor

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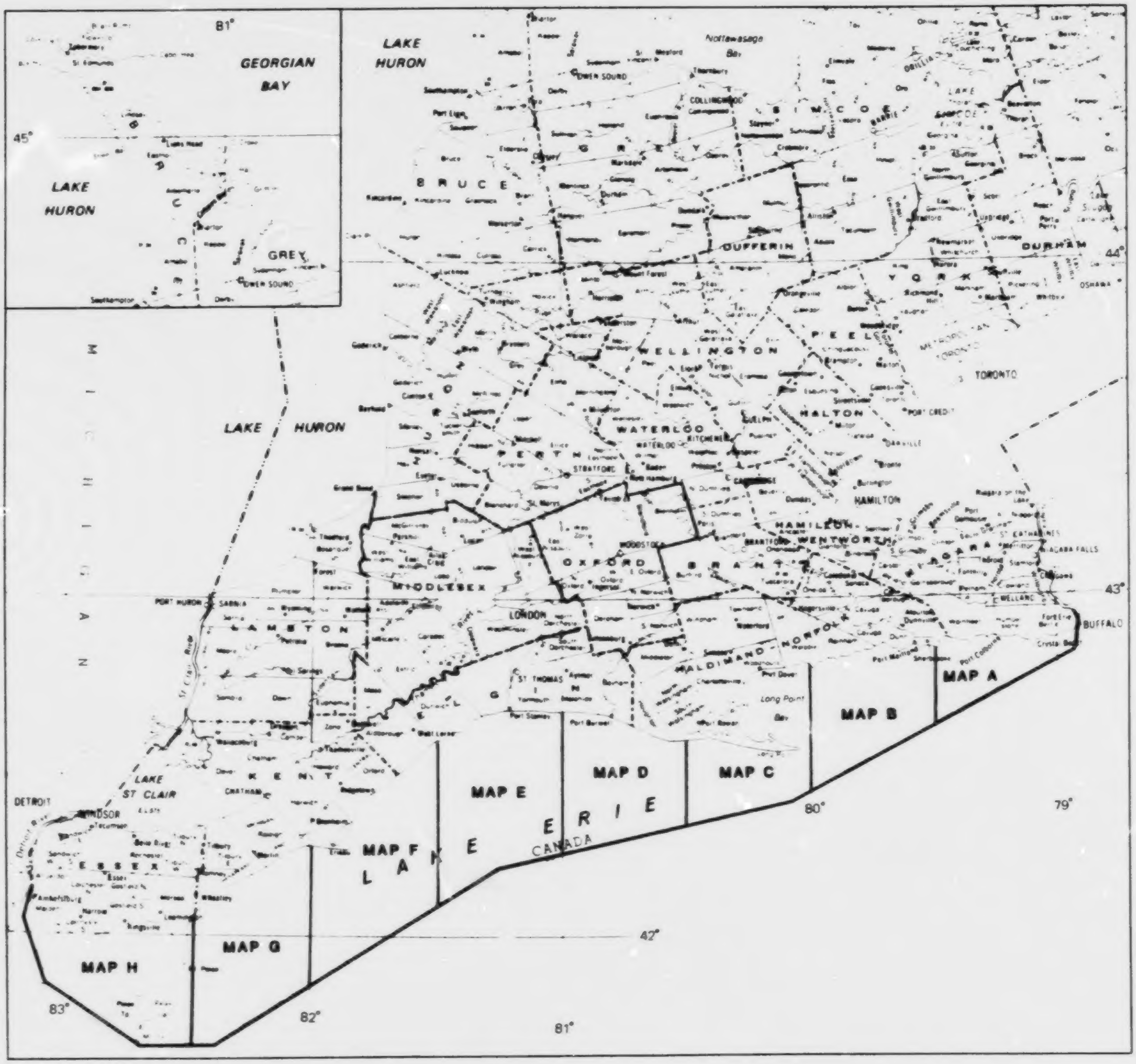
Figure 19. *Key Map for O.G.S. Petroleum Resources P. Number Maps (1:100 000).*


81°
GEORGIAN BAY
45°
LAKE HURON
A
B
C
D
GREY
OWEN SOUND
Southampton
LAKE HURON
Nottawasaga Bay
COLLINGWOOD
S I M C O E
BARRIE
ORILLIA
LAKE SIMCOE
G R E Y
B R U C E
DUFFERIN
DURHAM
44°
Y O R K
OSHAWA
P E E L
METROPOLITAN TORONTO
TORONTO
W E L L I N G T O N
Goderich
GUELPH
H A L T O N
PORT CREDIT
OAKVILLE
WATERLOO
KITCHENER
LAKE HURON
P E R T H
STRATFORD
HAMILTON
Grand Bend
HAMILTON-WENTWORTH
ST CATHARINES
NIAGARA FALLS
WOODSTOCK
OXFORD
BRANT
NIAGARA
MIDDLESEX
PORT HURON
SARNIA
43°
WELLAND
LAMBTON
LONDON
BUFFALO
HALDIMAND-NORFOLK
ST THOMAS
MAP A
Long Point Bay
MAP B
E L G I N
MAP C
MAP D
MAP E
LAKE ST CLAIR
K E N T
CHATHAM
DETROIT
WINDSOR
80°
79°
L A K E E R I E
CANADA
MAP F
E S S E X
42°
MAP G
MAP H
83°
82°
81°
M I C H I G A N

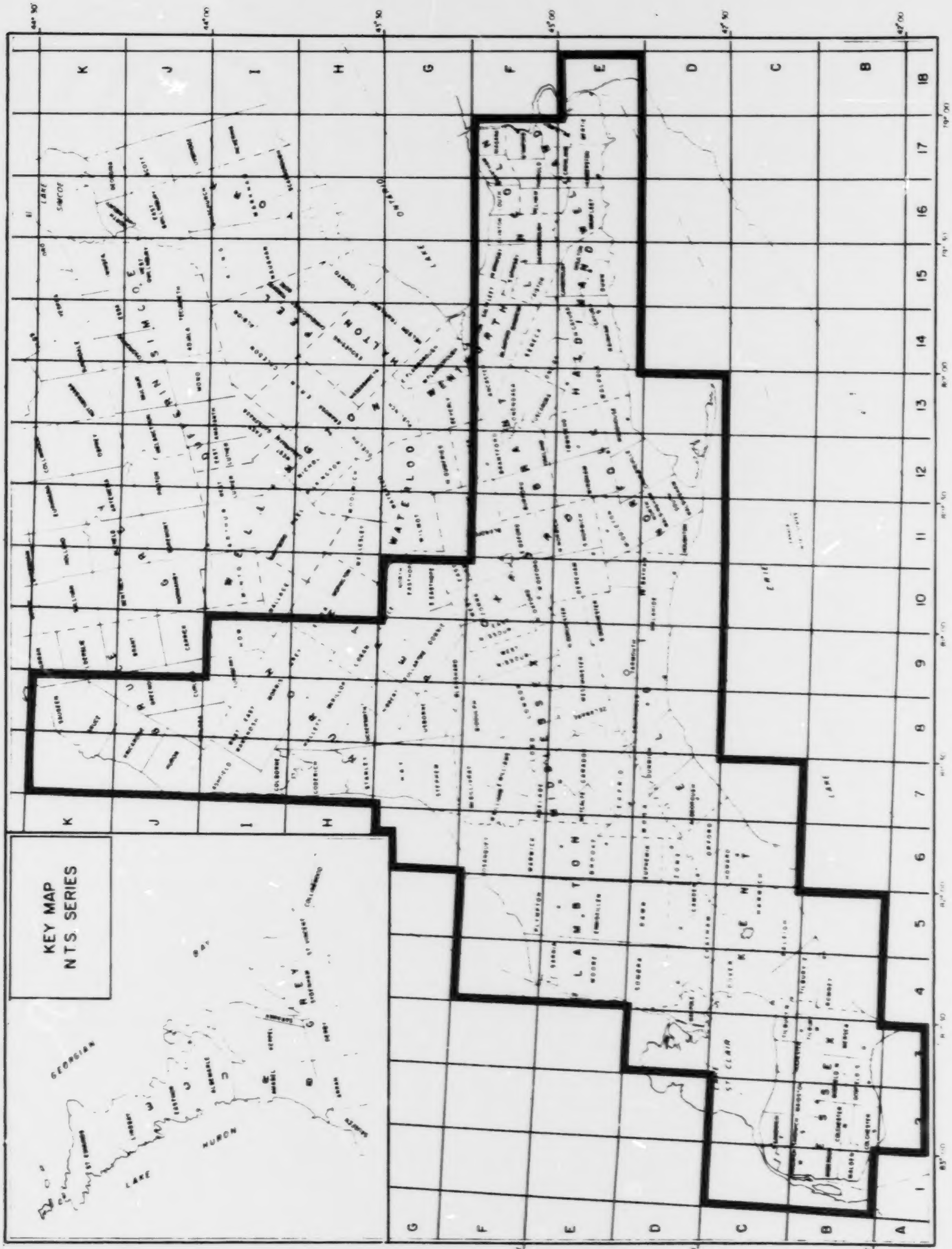

KEY MAP
NTS SERIES
A
B
C
D
E
F
G
H
I
J
K
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
LAKE HURON
GEORGIAN BAY
LAKE SIMCOE
LAKE ONTARIO
LAKE ERIE
LAKE ST. CLAIR
WATERLOO
LAMBTON
KENT
ESSEX
HALDIMAND
GREY

Figure 20. *Key Map for (NTS Series) Well Location and Status Base Maps (Onshore – Southwestern Ontario)(1:30 000).*

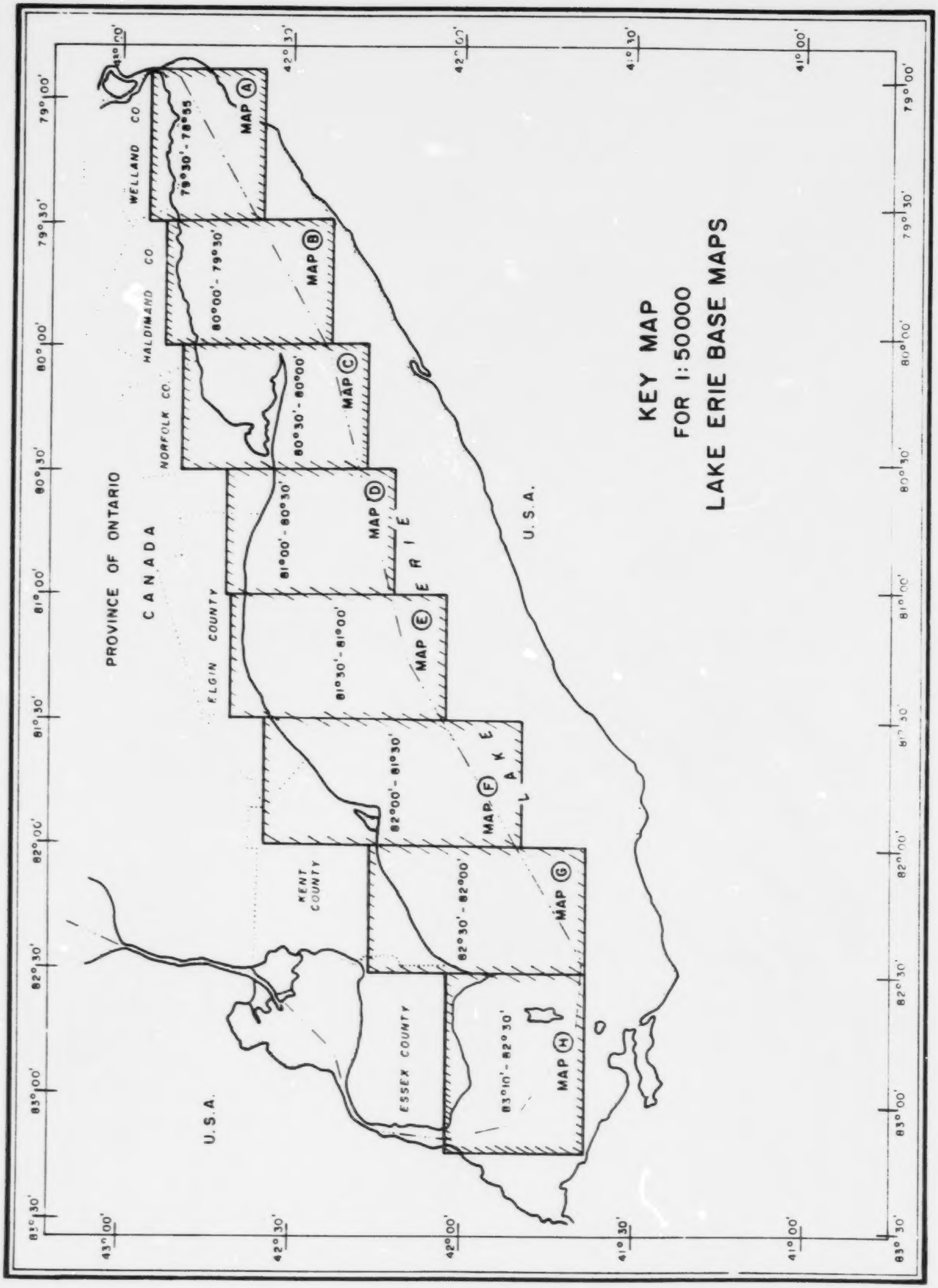

KEY MAP
FOR 1:50000
LAKE ERIE BASE MAPS
PROVINCE OF ONTARIO
CANADA
U.S.A.
U.S.A.
WELLAND CO
HALDIMAND CO
NORFOLK CO.
ELGIN COUNTY
KENT COUNTY
ESSEX COUNTY
LAKE ERIE
MAP Ⓐ
79°30' - 78°55
MAP Ⓑ
80°00' - 79°30'
MAP Ⓒ
80°30' - 80°00'
MAP Ⓓ
81°00' - 80°30'
MAP Ⓔ
81°30' - 81°00'
MAP Ⓕ
82°00' - 81°30'
MAP Ⓖ
82°30' - 82°00'
MAP Ⓗ
83°10' - 82°30'
79°00'
79°30'
80°00'
80°30'
81°00'
81°30'
82°00'
82°30'
83°00'
83°30'
43°00'
42°30'
42°00'
41°30'
41°00'

Figure 21. *Key Map for Lake Erie Well Location and Status Base Maps (1:50 000).*

Appendix IV.
Explanation Of Data Items And Abbreviations

WELL NAME: The official name of the well as issued on the Permit to Bore, Drill, or Deepen a Well (Form 106).

PERMIT NO.: This number is assigned to the well location upon approval of the Application for a Permit to Bore, Drill, or Deepen a Well. Where the original location is abandoned as a result of drilling or completion difficulties, and the rig is moved or skidded to a new location within the same drilling tract, the original Permit No. using the alphabetical suffix "A" will apply to the second well.

CLASSIFICATION: Each well is classified at the time the Application for a Permit to Bore, Drill, or Deepen a Well is approved.

Classification Codes

NPW	New Pool Wildcat
DPT	Deeper Pool Test
SPT	Shallower Pool Test
DEV	Development
BD	Brine Disposal
BW	Natural Brine Production
INJ	Injection
LPG	Liquid Petroleum Gas Storage
NGS	Natural Gas Storage
OBS	Observation
SM	Solution Mining
STR	Stratigraphic Test

TARGET: Chronostratigraphic system or lithostratigraphic group which include the rock unit which is the primary target of the well being drilled.

Seven primary targets are recognized in Ontario.

DEV	Devonian
SIL	Silurian - unsubdivided
SAL	Silurian - targets within the Salina Group and Guelph Formation in particular, and the Rochester to Bass Islands Formations inclusive.
CLI	Silurian - targets within the Clinton and Cataract (or Medina) Groups (Whirlpool to Irondequoit Formations inclusive).
ORD	Ordovician
CAM	Cambrian
PRE	Precambrian (usually stratigraphic tests).

CURRENT STATUS: Status of the well following drilling and completion (if attempted).

Current Status Codes

GP Gas Producer
GP-SUS Gas Producer-Suspended
GP-ABD Gas Producer-Abandoned
GS Gas Show
GS-SUS Gas Show-Suspended
GS-ABD Gas Show Abandoned
OP Oil Producer
OP-SUS Oil Producer-Suspended
OP-ABD Oil Producer-Abandoned
OS Oil Show
OS-SUS Oil Show-Suspended
OS-ABD Oil Show-Abandoned
BD Brine Disposal
BD-SUS Brine Disposal-Suspended
BD-ABD Brine Disposal-Abandoned
BP Brine Producer
BP-SUS Brine Producer-Suspended
BP-ABD Brine Producer-Abandoned
DH Dry Hole
DH-SUS Dry Hole-Suspended
DH-ABD Dry-Abandoned
INJ Injection
INJ-SUS Injection-Suspended
INJ-ABD Injection-Abandoned
LOST-SUS Lost-Suspended
LOST-ABD Lost-Abandoned
LPG Liquid Petroleum Storage
LPG-SUS Liquid Petroleum Storage-Suspended
LPG-ABD Liquid Petroleum Storage-Abandoned
NGS Natural Gas Storage
NGS-SUS Natural Gas Storage-Suspended
NGS-ABD Natural Gas Storage-Abandoned
OBS Observation
OBS-SUS Observation-Suspended
OBS-ABD Observation-Abandoned
SOURCE Water Source Well
SOURCE-SUS Water Source Well-Suspended
SOURCE-ABD Water Source Well-Abandoned
STR-SUS Stratigraphic Test-Suspended
STR-ABD Stratigraphic Test-Abandoned

RESULTS: Results of the drilling operation. The results are usually but not necessarily the same as the well status following completion. For example, a reentry of an existing oil producer for a deeper pool test may be unsuccessful in discovering a new accumulation of hydrocarbons at the target horizon. Consequently the results of the drilling operation would be DH, but the status would be OP if the well is recompleted at the original producing interval.

GEOGRAPHIC DESCRIPTION: Wells are listed alphabetically by County, Township, Block, Tract, Lot, and Concession.

Abbreviations for concessions

AUS	Ausable
BF	Broken Front
FLH	Front Lake Huron
LRE	Lake Road East
LRW	Lake Road West
NB	North Boundary
NER	North Egremont Road
NLR	North Lake Road
NTR	North Talbot Road
NUR	North Union Road
R	Range
SB	South Boundary
SER	South Egremont Road
SLR	South Lake Road
STR	South Talbot Road
SUR	South Union Road

CO-ORDINATES: Surveyed co-ordinates for all land wells are given in metres from lot lines, unless otherwise stated. Surveyed co-ordinates for lake wells are recorded by latitude and longitude, in degrees, minutes, and seconds. Latitude and longitude values for all land wells have also been determined and appear in this report.

KB ELEVATION: Ground elevation in metres above sea level plus number of metres to rig floor or kelly bushing.

RIG TYPES: Abbreviation for rig types are as follows

CAB	Cable Tool Rig
ROT	Rotary Rig
UNK	Unknown

SAMPLES: Drill cuttings samples are retained for all wells and are available for examination at:

Petroleum Resources Laboratory
Ontario Ministry of Natural Resources
659 Exeter Road
London, Ontario, Canada
N6A 4L6

CORES: The intervals cored are given and unless otherwise stated, the cores are stored at the Petroleum Resources Laboratory.

Core Type Codes

CC1	2.5 cm Wedge
CC2	Conventional (greater than 5 cm)

CCF	Full Width Slab
CCO	Core Chips Only
RSO	Representative Sections Only
SC2	Slimhole (less than 5 cm)
SCS	Slimhole Slabbed

TREATMENT: If a well has been stimulated to increase production, a treatment code is included to indicate the type of stimulation program.

Treatment Type Codes

ACID	Acidized
CONF	Fracture-conventional
OYNM	Explosives-dynamite
FOAM	Fracture-foam
LARF	Fracture-large volume
NTGY	Explosives-nitroglycerine
SHOT	Explosives-shot

LOGGING RECORD: The type of logs taken at the well and the logging company are recorded.

Log Type Codes

ACSL	Acoustic
CALP	Caliper
CBLK	Cyberlook
CBND	Cement Bond
CBVD	Cement Bond Variable Density
CCL	Cosing Collar Locator
CDM	Continuous Dipmeter
CFLO	Continuous Flowmeter
CIS	Customer Instrument Services
CLDL	Chloride Detection
CMPL	Completion
CNFD	Compensated Neutron-Formation Density
CNL	Compensated Neutron
COAL	Coal
COL	Carbon/Oxygen
CONL	Contact
CORI	Coriband
DENL	Density
DIFS	Dual Induction Spherically Focussed Laterolog
DIL	Dual Induction Laterolog
DILS	Dual Induction/Sonic
DIPM	Dipmeter
DIRS	Directional Survey
DLL	Dual Laterolog
DLLM	Dual Laterolog Micro SFL
EAS	Epilog Analysis System
ELPR	Electromagnetic Propagation
ES	Electric Survey
FDC	Formation Density Compensated
FFLO	Full Bore Flowmeter
FIT	Formation Internal Tester
FOCL	Focus
FRID	Fracture Identification
FRXL	Forxo
GGDE	Gamma-Gamma Density
GRAD	Gradiometer
GRDL	Guard
GRFD	Gamma Ray-Formation Density
GRL	Gamma Ray
GRNL	Gamma Ray-Neutron
GRSL	Gamma Ray-Sonic
GSAR	Geothermal Saraband
HCDS	Hydrocarbon or Gas
HEL	Hostile Environment
HRT	High Resolution Thermometer
IES	Induction Electric Survey
ISF	Induction Spherically Focussed
ISFM	ISF Microspherically Focussed
ISFS	ISF/Sonic
ISOL	Isotron
LASL	Laser
LATL	Dual Laterolog
LDT	Lithodensity
LSL	Limestone
LSS	Long-spaced Sonic
MAGL	Nuclear Magnetism
MICL	Microlog
MLAT	Microlaterolog
MICS	Microsurvey
MINF	Minifocus
MINL	Minilog
MLAL	Forxo
MLAT	Microlaterolog
MPL	Mechanical Properties
MSFL	Micro-Spherically Focussed Laterolog
MSGM	Microseismogram
NEUT	Neutron
NFLO	Nuclear Flowlog
NGRS	Natural Gamma Ray Spectroscopy
PCT	Production Combination Tool
PEF	Photoelectric Effect
PHOT	Photon
PIP	Precision Identified Perforations
PML	Production Management
PRMS	Permeability Spinner
PRXL	Proximity
PWAS	Prolog Wellsite Analysis System
PXML	Proximity Microlog
RFT	Repeat Formation Tester
RTRS	Radioactive Tracer Survey
SARA	Saraband
SCAT	Scattered Gamma
SNP	Sidewall Neutron Porosity
SONA	Borehole Audio Tracer Survey
SONL	Sonic
SONR	Sonar
SP	Self Potential
SRPG	Surface Recorded Pressure Guage
SRSL	Seismic Reference
SUL	Sulfur
SYRG	Synergetic Log System
TDL	Temperature Differ
TDST	Through Drillstem Logging
TDT	Thermal Neutron Decay Time
TEL	Thermal Evaluation
TMPL	Temperature
TTC	Through Tubing Caliper
ULSE	Ultra Long Spaced Electrical
VDL	Variable Density
VELS	Velocity Survey
VERL	Vertilog
WLS	Water Location Survey
WST	Well Seismic Tool
XPTL	Experimental

CASING AND TUBING RECORD: Abbreviations for how the casing and tubing are set in the well.

ANC	Anchor Packer
BAR	Barefoot
BHP	Bottom Hole Packer
CEM	Cemented
COL	Collar
HAN	Hanging
HWP	Hook Wall Packer
PAC	Packer
PC	Packer and Cement
SHO	Casing Shoe

WATER RECORD: Abbreviations for type of water encountered while drilling a well.

BRA	Brackish
BLK	Black
FRE	Fresh
SAL	Salt
SUL	Sulfur

GEOLOGY: The geological formation picks are supplied by OMNR geologists. Unpublished operator formation picks are available on Drilling and Completion Records submitted by the operators to the Ministry.

The nomenclature used in this report is based on published descriptions of the various geological units.

Appendix V.
Summary of Wells Drilled in 1986

APPENDIX V: SUMMARY OF WELLS DRILLED IN 1986.

Well Name	Permit Number	Completion Date	Target	Total Depth in Metres	Class	Results	Producing Formation	Metres Drilled	Sample Tray Number
BRUCE									
Burt Eastnor 3-7-III EBR	7014	86.10.10	CAM	579.4	NPW	DH		579.4	7759
Subtotal				579.4				579.4	
ELGIN									
Cdnoxy Rodney 6-18 Aldborough 4-8-5-V	7065	86.11.08	DEV	137.2	DEV	OP	Columbus	137.2	394
Cdnoxy Rodney 6-17 Aldborough 4-5-5-V	7064	86.11.13	DEV	122.6	DEV	OP	Columbus	122.6	2224
Cdnoxy Rodney 7-20 Aldborough 4-6-6-V	7068	86.11.16	DEV	126.0	DEV	OP	Columbus	126.0	394
Cdnoxy Rodney 7-21 Aldborough 1-7-6-V	7069	86.11.19	DEV	127.4	DEV	OP	Columbus	127.4	
G.E.L. 16 Aldborough 1-5-D-VII	6903	86.03.04	DEV	130.5	NPW	DH-ABD		130.5	1915
Raen-Bedford Dunwich 2-24-A	6997	86.06.10	CAM	1125.9	NPW	OS-GS-ABD		1125.9	9134-35
Consumers' 34047 Southwold C Plan 39	6984	86.02.24	CAM	1155.0	NPW	GS-BD		1155.0	9136-37
Subtotal				2924.6				2924.6	
ESSEX									
PPC 9 Colchester South J-13-76-Front	7053	86.10.25	ORD	937.0	NPW	DH-ABD		937.0	9156-57
Brett-Bro Gosfield North 3-13-XI	6953	86.01.17	ORD	135.6	NPW	LOST-ABD		135.6	397
Brett-Bro Gosfield North 3-13-XI	6953A	86.10.23	ORD	942.0	NPW	DH-ABD		942.0	9158-59
Consumers' 34212 Gosfield South 8-5-III	7051	86.11.07	ORD	1040.0	NPW	OS-ABD		1040.0	9164-65
Ram #92 Maidstone 8-12-SMR	6995	86.03.16	ORD	1083.0	NPW	OS-ABD		1083.0	9154-55
Cons et al 34054 Mersea 3-13-A	7018	86.06.02	SAL	184.0	BD	BD		184.0	5233
Cons et al 34104 Mersea 7-14-I	7077	86.12.15	ORD	1069.0	DEV	OS-ABD		1069.0	9168-69
Domego Tiessen #3 Mersea 7-15-A	6986	86.06.12	ORD	795.2	DEV	OS-SUSP		795.2	9152-53
Domego #2 Mersea 6-16-B	6959	86.02.26	ORD	800.1	NPW	OP	Verulam	800.1	6864-65
Ram #93 Mersea 7-22-IX	7003	86.03.31	ORD	1079.0	NPW	OS-ABD		1079.0	9150-51
Subtotal				8064.9				8064.9	
HALDIMAND									
Robins #1 Moulton 3-3-IV FC	6919	86.04.02	CLI	202.7	DEV	GP	Grimsby-Whirlpool	202.7	6373
Subtotal				202.7				202.7	
KENT									
Twin Star #1 Camden 6-10-IX Gore	6975	86.03.24	SAL	547.0	NPW	GP-OS	A1 Carbonate	547.0	5885
Twin Star #2 Camden 6-10-X Gore	7013	86.04.30	SAL	548.0	NPW	GP	A1-A2 Carbonate	548.0	8422
Twin Star #3 Camden 2-9-IX Gore	7039	86.09.16	SAL	533.4	NPW	GP	A1-A2 Carbonate	533.4	7887
Francisco et al #4 Chatham 4-10-XIII	7017	86.08.27	SAL	499.9	DEV	OP-GS	A1 Carbonate	499.9	6942
Everdeen et al No. 1 Chatham 1-3-XV	7042	86.10.07	SAL	596.0	NPW	DH-ABD		596.0	8663
Everdeen et al No. 2 Dover 7-24-XV EBR	7052	86.11.20	SAL	580.3	NPW	OS		580.3	5904
PPC et al #8 Howard 4-92-STR	6996	86.03.09	SAL	650.0	NPW	DH-ABD		650.0	3282
Cameron Doyles 2 Raleigh 8-19-VIII	7067	86.12.09	SAL	496.5	DEV	GP	Guelph	496.5	5725
Crow #4 Raleigh 8-2-I	6910	86.02.08	ORD	1103.4	NPW	OS-GS-ABD		1103.4	9138-39
Cons et al 34010 Romney 7-17-III	6970	86.02.02	ORD	1121.7	NPW	OS-ABD		1121.7	6862-63
Cons et al 34011 Romney 3-8-II	6944	86.01.22	ORD	1100.0	NPW	OP	Verulam	1100.0	9140-41
Cons et al 34160 Romney 5-8-II	7071	86.12.04	ORD	980.0	DEV	OS-ABD		980.0	9166-67
Bryant-Union Zone 2-3-10-VI	6917	86.03.28	DEV	113.5	DEV	OP	Dundee	113.5	469

APPENDIX V: SUMMARY OF WELLS DRILLED IN 1986.

Well Name	Permit Number	Completion Date	Target	Total Depth in Metres	Class	Results	Producing Formation	Metres Drilled	Sample Tray Number
KENT (cont.)									
Bryant Union Zone 4-4-11-VI	6918	86.03.15	DEV	112.3	NPW	OP	Dundee	112.3	380
Brett Zone 3-2-18-RR	6957	86.06.23	DEV	196.9	NPW	OS		196.9	146
Subtotal				9178.9				9178.9	
LAKE ERIE									
Place Walpole 17-L-4	7036	86.08.18	CLI	275.2	DEV	GP	Grimsby	275.2	9784
Place 22-J-4	7043	86.09.23	CLI	307.9	DEV	GP	Thorold-Whirlpool	307.9	5665
Place Sherbrooke 23-D-4	7056	86.10.27	CLI	297.2	DEV	GP	Whirlpool	297.2	5643
Place 23-E-4	7044	86.10.13	CLI	302.4	DEV	GP	Whirlpool	302.4	9784
Subtotal				1182.7				1182.7	
LAMBTON									
Roth & Roth Brooke 6-1-XIV	6999	86.04.10	SAL	620.0	NPW	OP-GS	Guelph	620.0	8425
Ram #88 Brooke 5-18-II	6958	86.01.04	ORD	1200.0	NPW	DH-ABD		1200.0	9119-20
Smith et al Brooke 3-2-XII	7031	86.09.08	SAL	651.7	NPW	DH-ABD		651.7	8636
Global 3 Brooke 1-1-26-XIV	7029	86.10.17	DEV	132.6	DEV	OP	Dundee	132.6	2930
Global 2 Brooke 2-1-27-XIV	7028	86.09.26	DEV	118.9	DEV	OP-GS	Dundee	118.9	6269
Global 1 Brooke 3-2-27-XIV	7027	86.09.18	DEV	118.9	DEV	OP-GS	Dundee	118.9	6269
Brett Dawn 1-7-18-XIII	7026	86.08.06	DEV	119.0	BD	BD		119.0	476
Union Dawn 257 Dawn -19-I	6916	86.03.06	SAL	543.2	NGS	NGS		543.2	8396
Union Dawn 258 Dawn -19-I	6785	86.03.12	SAL	543.0	NGS	NGS	Guelph	543.0	6866
Ram #91 Dawn 7-20-III	6983	86.02.18	ORD	1202.0	NPW	GS-OBS	Coboconk	1202.0	9132-33
Union Gas #118 Dawn 8-25-XIII	6963	86.02.26	SAL	561.7	DPT	OS-GS-ABD		6.7	1163-64
Bender 17 Disposal Enniskillen 3-14-IX	6993	86.08.27	DEV	137.0	BD	LOST-ABD		137.0	5639
Brett Enniskillen 7-15-II	7046	86.10.24	SAL	614.0	DEV	DH-ABD		614.0	6510
Imperial 838 Fairbank Disposal Enniskillen 3-18-II	7054	86.10.28	DEV	182.9	BD	BD		61.0	4482
C.R. Disposal Enniskillen 2-8-8-XIII	6973	86.05.10	DEV	198.1	BD	BD		198.1	6971
Springs Euphemia 4-34-II	6967	86.03.04	SAL	571.0	NPW	DH-ABD		571.0	7027
Tec. Kim-Col S1 Moore 4-18-VII	7016	86.07.15	SAL	680.0	NGS	NGS	Guelph	680.0	8652
Union Payne No. 22 Moore -21-VII	7022	86.07.31	SAL	665.8	NGS	NGS	Guelph	665.8	8534
Petrosar FB-9131 Ethylene S. Cavern Moore 1-23-IX	6966	86.02.05	SAL	166.6	SM	OBS		5.6	
Petrosar FB 9133(B) Moore 8-23-X	7015	86.05.12	SAL	640.0	LPG	LPG		640.0	8068
Petrosar FB-9130 Moore 8-23-X	6992	86.03.06	SAL	286.5	OBS	OBS		286.5	252
Dow 56B Moore -23-XII	6979	86.04.01	SAL	652.0	LPG	LPG		652.0	7947
Ram #87 Moore 5-24-VI	6956	86.01.11	ORD	1390.0	NPW	DH		1390.0	9125-26
Dow 83 Moore -24-XI	6976	86.06.13	SAL	749.8	SM	SM		749.8	8638
Dow 59B Moore -24-XII	6980	86.04.28	SAL	655.0	LPG	LPG		655.0	6919
Dow 84 Moore -24-XII	6977	86.05.14	SAL	759.0	SM	SM		759.0	8420
Dow 85 Moore -24-XII	6978	86.05.30	SAL	766.8	SM	SM		766.8	8580
Baker #3 Moore 2-3-I	7037	86.09.16	SAL	665.6	NPW	DH-ABD		665.6	8647
Ram 86 Moore 4-5-IV	6949	86.04.15	ORD	1257.0	NPW	DH-ABD		1257.0	9130-31
Devran Sarnia 1-3-3-VI	6719	86.04.30	DEV	128.6	DEV	OP	Dundee	128.6	

APPENDIX V: SUMMARY OF WELLS DRILLED IN 1986.

Well Name	Permit Number	Completion Date	Target	Total Depth In Metres	Class	Results	Producing Formation	Metres Drilled	Sample Tray Number
LAMBTON (cont.)									
Devran B Sarnia 1-3-3-VI	7021	86.05.24	DEV	121.5	DEV	OP	Dundee	121.5	1934
Devran Disposal Sarnia 3-2-3-VI	6998	86.03.21	DEV	207.3	BD	BD		207.3	189
AQ11 Esso Refinery Sarnia -49-RF	7049	86.07.03	DEV	83.8	OBS	OBS		83.8	
Cavern 4040A Sarnia -A-Range V	7074	86.12.18	SAL	808.0	LPG	LPG		808.0	9162-63
Ram #90 Sombra 8-20-V	6965	86.01.24	ORD	1186.0	NPW	DH-ABD		1186.0	9147-48
Raen Petroleum Sombra 1-21-XIII	7030	86.08.12	SAL	657.5	NPW	DH-ABD		657.5	8503
Union Terminus No. 13 Sombra -23-IX	7024	86.09.11	SAL	556.0	OBS	OBS	Guelph	556.0	9604
Brett Bro Sombra 7-23-XIII	6934	86.01.07	SAL	624.0	DEV	GP	Guelph	624.0	8338
Ram 89 Sombra 2-26-V	6962	86.05.14	ORD	1186.0	NPW	GS-ABD	Coboconk	1186.0	9145-46
Union Bickford No. 34 Sombra -7-XII	7019	86.08.29	SAL	641.0	OBS	OBS	A1 Carbonate	641.0	9635
Chatham Res 3 Warwick 1-3-26-VI SER	7080	86.12.14	DEV	132.0	DEV	OP	Dundee	132.0	2112
Chatham 1 Warwick 2-3-26-VI SER	7009	86.04.02	DEV	138.1	DEV	OP	Dundee	138.1	381
Chatham Res 4 Warwick 3-3-26-VI SER	7081	86.12.18	DEV	135.6	DEV	OP	Dundee	135.6	2112
Chatham 2 Warwick 4-3-26-VI SER	7010	86.03.31	DEV	138.1	DEV	OP	Dundee	138.1	452
Subtotal				23591.6				22753.7	
MANITOULIN									
TLX Robin No. 1 Sandfield 4-9-V	7023	86.06.18	ORD	355.7	NPW	GS-BD		355.7	6687
Subtotal				355.7				355.7	
MIDDLESEX									
C.G. Oil #7 Caradoc 1-2-6-VI	6940	86.01.30	DEV	120.7	NPW	OS-ABD		120.7	
Brett Metcalfe 4-8-5-XIII	7073	86.12.17	DEV	129.5	NPW	DH-ABD		129.5	3158
Brett Metcalfe 1-1-6-XIV	7063	86.11.12	DEV	137.2	NPW	DH-ABD		137.2	3111
Hewitt Tundra et al Mosa 8-21-II	6960	86.03.24	CAM	1158.5	NPW	DH-ABD		1158.5	9121-22
Subtotal				1545.9				1545.9	
NORFOLK									
Bayview #14 Charlotteville 7-3-IV	7040	86.09.30	CLI	419.5	NPW	GS-OS-ABD		419.5	9789
Bayview #12 Charlotteville 8-3-IX	6982	86.03.19	CLI	367.5	DEV	GP	Thorold	367.5	
Bayview #11 Charlotteville 7-7-VI	6968	86.02.06	CLI	389.5	NPW	GP	Grimsby	389.5	8009
Chatham 23 Charlotteville 5-7-X	6991	86.04.11	CLI	400.8	NPW	GP	Grimsby	400.8	6558
Cyclamen Middleton 5-27-II STR	6994	86.03.28	CLI	367.0	DEV	GP	Thorold	367.0	7700
Non Stop Begonia Middleton 7-29-I NTR	7008	86.04.28	CLI	358.0	DEV	GP	Reynales	358.0	6499
FM 11 North Walsingham 6-19-VII	7066	86.11.13	CLI	404.5	NPW	GS-ABD		404.5	8535
F & M #10 North Walsingham 6-19-VIII	6985	86.02.25	CLI	399.3	DEV	GP	Thorold	399.3	3559
Chatham 14 South Walsingham 2-13-A	6913	86.01.27	CLI	449.9	NPW	GP	Grimsby	449.9	3281
Chatham 16 South Walsingham 8-13-II	6915	86.01.29	CLI	450.2	NPW	GP	Thorold-Grimsby	450.2	6444
Chatham 15 South Walsingham 1-14-I	6914	86.01.19	CLI	431.3	NPW	GP	Thorold-Grimsby	431.3	6809
Chatham 21 South Walsingham 1-18-III	6987	86.03.09	CLI	408.6	NPW	GP	Thorold-Grimsby	408.6	7070
Chatham 26 Woodhouse 8-11-III	7007	86.08.28	CLI	335.3	NPW	GP	Thorold	335.3	6386
J.R.B. No.1 Woodhouse 7-11-II	7000	86.03.25	CLI	332.5	NPW	GP	Thorold-Grimsby	332.5	

APPENDIX V: SUMMARY OF WELLS DRILLED IN 1986.

Well Name	Permit Number	Completion Date	Target	Total Depth in Metres	Class	Results	Producing Formation	Metres Drilled	Sample Tray Number
NORFOLK (cont.)									
Chatham 25 Woodhouse 4-13-II	7005	86.04.14	CLI	332.8	NPW	GP	Thorold	332.8	5804
Falcon Point 1 Woodhouse 5-16-VI	6945	86.03.08	CLI	307.5	NPW	GP	Thorold-Grimsby-Whirlpool	307.5	7338
Chatham 20 Woodhouse 3-5-II	6988	86.03.18	CLI	364.2	NPW	GP	Thorold	364.2	7065
Chatham 19 Woodhouse 1-5-II	6989	86.03.24	CLI	349.6	NPW	GP	Thorold-Grimsby	349.6	6855
Chatham 17 Woodhouse 5-5-III	6936	86.01.22	CLI	333.5	DEV	GP	Grimsby	333.5	7095
Chatham 18 Woodhouse 1-6-III	6937	86.03.12	CLI	348.1	NPW	GP	Thorold	348.1	6972
Subtotal				7549.6				7549.6	
OXFORD									
Domego #2 Blandford 1-2-V	6947	86.02.11	CAM	881.2	NPW	GP	Cambrian	881.2	6852-53
Domego #1 Blandford 1-4-V	6946	86.03.14	CAM	881.8	NPW	DH-ABD		881.8	9149-50
Innerkip No. 4 Blandford 3-7-VIII	6969	86.11.05	CAM	877.8	NPW	GP	Cambrian	877.8	9160-61
Subtotal				2640.8				2640.8	
WELLAND									
Chipandale Wainfleet 1-50-VII	7012	86.06.30	CLI	185.9	NPW	GP	Grimsby-Whirlpool	185.9	4219
Subtotal				185.9				185.9	
WENTWORTH									
Resolute Binbrook 6-7-26-VIII	6906	86.08.19	CLI	146.0	DEV	GP	Thorold-Grimsby-Whirlpool	146.0	6385
Bailey No. 1 Binbrook 3-3-IV	7041	86.11.14	CLI	141.7	NPW	GP	Grimsby-Whirlpool	141.7	7703
Subtotal				287.7				287.7	
TOTAL				58290.4				57452.5	

CTY: Bruce	TWP: Eastnor	BLK: -	TRAC: 3	LOT: 7	CON: III E.B.R.
WELL NAME: Burt Eastnor, 3-7-III E.B.R.		PERMIT: 7014		INIT CLASS: NFW	
OPERATOR: Ross Burt		TARGET: CAM		CUR STATUS: DH	

DRILLING DATA		DATES	COORDINATES	SAMPLES
CONTRACTOR: Bothwell Drilling and Serv. Ltd.		PERMIT: 86-04-09	NORTH: 218.7 m	TOP: 1.5 m
RIG TYPE: ROT	DEPTHS	SPUD: 86-08-28	SOUTH: - m	BOT: 577.8 m
CABLE TOP:	KB ELEV: 194.2 m	COMPTD: 86-10-10	EAST: 395.2 m	TRAY: 7759
BOT:	LOGGER:	OFFCNF: 87-10-10	WEST: - m	
ROTRY TOP: 1.8 m	DRILLER: 579.4 m	WRKOVR:	LAT: 81-15-05	
BOT: 579.4 m	DEEP END:	ABNDND:	LONG: 44-54-36	
DRLG FLD:	PLUG BK:			

INITIAL GAS RECORD

INTERVAL	FLOW	BP
-		
-		
-		
-		
-		
-		

CASING AND TUBING RECORD

DIAM	WEIGHT	SET AT	HOW SET	RECOV.
273	-	5.4	CEM	-
177.8	-	94.4	CEM	-

COMPLETION DATA

GAS: $10^3 m^3/d$

OIL: m^3/d

BP: kPa

FORM:

INTRVL: m

m

m

PERF ☐ OPEN HOLE ☐

INITIAL OIL RECORD

INTERVAL	FLOW	DENSITY
-		
-		
-		
-		
-		

LOGGING RECORD

INTERVAL	TYPE	COMPANY
-		
-		
-		
-		
-		
-		
-		

REMARKS

6 m of green calcareous shale at top of Queenston Most of Queenston Formation composed of grey shale and limestone - part of 'Tobermory Wedge' Pick depths corrected to KB elevation.

INITIAL WATER RECORD

INTERVAL	STAT LEV	TYPE
9.4 - -		FR
16.8 - -		
48.8 -		
393.4 - 398.5		SAL'
-		
-		

CORING RECORD

INTERVAL	LOCATION	NO.	mm
-			
-			
-			
-			
-			

	GEOLOGICAL CONTACTS	TOP	ELEV	THICK
	KB / LAKE LEVEL	0		
	DRIFT / LAKE BOTTOM -	1.8		
DEVONIAN	PORT LAMBTON			
	KETTLE POINT			
	HAMILTON			
	MARCELLUS			
	DUNDEE			
	COLUMBUS			
	LUCAS			
	AMHERSTBURG			
	SYLVANIA			
	BOIS BLANC			
	SPRINGVALE			
	ORISKANY			
SILURIAN	BASS ISLANDS			
	G SHALE			
	F SHALE			
	F SALT			
	E CARBONATE			
	D SALT/EQUIVALENT			
	C SHALE			
	B MARKER			
	B EQUIVALENT			
	B SALT			
	B ANHYDRITE			
	A2 CARBONATE			
	A2 SALT			

SILURIAN	A2 ANHYDRITE			
	A1 CARBONATE			
	A1 SALT			
	A1 ANHYDRITE			
	GUELPH			
	ERAMOSA			
	GOAT ISLAND			
	GASPORT/WIARTON	3.3		
	DECEW Lions Head	23.1		
	ROCHESTER			
	IRONDEQUOIT			
	REYNALES/FOSSIL HILL	32.3		
	THOROLD Wingfield	41.4		
	GRIMSBY Dyer Bay	42.8		
	CABOT HEAD	50.6		
	MANITOULIN	75.0		
	WHIRLPOOL			
ORDOVICIAN	QUEENSTON	87.2		
	BLUE MOUNTAIN - GEORG. BAY	142.0		
	COLLINGWOOD	273.1		
	COBOURG	276.1		
	VERULAM			
	KIRKFIELD			
	COBOCONK	382.8		
	GULL RIVER			
	SHADOW LAKE			
	CAMBRIAN			
	PRECAMBRIAN	443.8		

GEOLOGY BY: T.R. Carter

CTY: Elgin	TWP: Aldborough	BLK: -	TRAC: -	LOT: 5	CON: V
WELL NAME: Cdnoxy Rodney 6-18, Aldborough 4-8-5-V		PERMIT: 7065		INIT CLASS: DEV	
OPERATOR: Canadian Occidental Petroleum Ltd		TARGET: DEV		CUR STATUS: OP	

DRILLING DATA		DATES	COORDINATES	SAMPLES
CONTRACTOR: Eagle Well Services Inc.		PERMIT: 86-11-03	NORTH: 163.9 m	TOP: 91.4
RIG TYPE: ROT	DEPTHS	SPUD: 86-11-03	SOUTH: - m	BOT: 137.2
CABLE TOP: -	KB ELEV: 211.9	COMPTD: 86-11-08	EAST: - m	TRAY: 394
BOT: -	LOGGER: 122.5	OFFCNF: 86-12-08	WEST: 1.8 m	
ROTRY TOP: 1.4	DRILLER: 137.2	WRKOVR: -	LAT: 42-36-47.5	
BOT: 137.2	DEEP END: -	ABNDND: -	LONG: 81-43-48	
DRLG FLD: -	PLUG BK: 122.8			

INITIAL GAS RECORD

INTERVAL	FLOW	BP
-		
-		
-		
-		
-		
-		

CASING AND TUBING RECORD

DIAM	WEIGHT	SET AT	HOW SET	RECOV.
177.8	25.3	85.6	CEM	-
114.3	16.1	123.5	CEM	-

COMPLETION DATA

GAS: - $10^3 m^3/d$

OIL: - m^3/d

BP: - kPa

FORM: Lucas

INTRVL: 120.2 - 122.2 m

m

m

PERF ☒ OPEN HOLE ☐

INITIAL OIL RECORD

INTERVAL	FLOW	DENSITY
-		
-		
-		
-		
-		

LOGGING RECORD

INTERVAL	TYPE	COMPANY
0 - 120.4	CBL	COMP
0 - 122.5	NEUT	"
-		
-		
-		
-		
-		

REMARKS

INITIAL WATER RECORD

INTERVAL	STAT LEV	TYPE
124 - -	-	SUL
-		
-		
-		
-		
-		

CORING RECORD

INTERVAL	LOCATION	NO.	mm
113.7 - 123.8	PRL	-	Y
-			
-			
-			
-			

	GEOLOGICAL CONTACTS	TOP	ELEV	THICK
	KB / LAKE LEVEL	0.0		
	DRIFT / LAKE BOTTOM	1.4		
DEVONIAN	PORT LAMBTON			
	KETTLE POINT			
	HAMILTON			
	MARCELLUS			
	DUNDEE	77.6		
	COLUMBUS			
	LUCAS	119.1		
	AMHERSTBURG			
	SYLVANIA			
	BOIS BLANC			
	SPRINGVALE			
	ORISKANY			
SILURIAN	BASS ISLANDS			
	G SHALE			
	F SHALE			
	F SALT			
	E CARBONATE			
	D SALT/EQUIVALENT			
	C SHALE			
	B MARKER			
	B EQUIVALENT			
	B SALT			
	B ANHYDRITE			
	A2 CARBONATE			
	A2 SALT			

SILURIAN	A2 ANHYDRITE			
	A1 CARBONATE			
	A1 SALT			
	A1 ANHYDRITE			
	GUELPH			
	ERAMOSA			
	GOAT ISLAND			
	GASPORT/WIARTON			
	DECEW			
	ROCHESTER			
	IRONDEQUOIT			
	REYNALES/FOSSIL HILL			
	THOROLD			
	GRIMSBY			
	CABOT HEAD			
	MANITOULIN			
	WHIRLPOOL			
ORDOVICIAN	QUEENSTON			
	BLUE MOUNTAIN - GEORG. BAY			
	COLLINGWOOD			
	COBOURG			
	VERULAM			
	KIRKFIELD			
	COBOCONK			
	GULL RIVER			
	SHADOW LAKE			
	CAMBRIAN			
	PRECAMBRIAN			

GEOLOGY BY: T. R. Carter

CTY:	Elgin	TWP:	Aldborough	BLK:	–	TRAC:	4-5	LOT: 5	CON: V
WELL NAME:	Cdnoxy Rodney 6-17, Aldborough 4-5-5-V			PERMIT:	7064	INIT CLASS:			DEV
OPERATOR:	Canadian Occidental Petroleum Ltd.			TARGET:	DEV	CUR STATUS:			OP

DRILLING DATA				DATES		COORDINATES		SAMPLES	
CONTRACTOR:	Eagle Well Service Inc.			PERMIT:	86-11-03	NORTH:	349.5 m	TOP:	88.4
RIG TYPE:	ROT	DEPTHS		SPUD:	86-11-11	SOUTH:	– m	BOT:	115.8
CABLE TOP:	–	KB ELEV:	212.3	COMPTD:	86-11-13	EAST:	– m	TRAY:	2224
BOT:	–	LOGGER:	121.8	OFFCNF:	86-12-13	WEST:	2.4 m		
ROTRY TOP:	1.3	DRILLER:	122.6	WRKOVR:	–	LAT:	42-34-52		
BOT:	122.6	DEEP END:	–	ABNDND:	–	LONG:	81-43-54		
DRLG FLD:	–	PLUG BK:	–						

INITIAL GAS RECORD			CASING AND TUBING RECORD				
INTERVAL	FLOW	SIP	DIAM.	WEIGHT	SET AT	HOW SET	RECOV.
–			139.7	20.8	83	CEM	–
–							
–							
–							
–							
–							

COMPLETION DATA

GAS: 10³m³/d

OIL: m³/d

SIP: kPa

FORM:

INTRVL: m

m

m

PERF ☐ OPEN HOLE ☒

REMARKS

INITIAL OIL RECORD			LOGGING RECORD		
INTERVAL	FLOW	DENSITY	INTERVAL	TYPE	COMPANY
–			0 – 120.0	GRL	COMP
–			0 – 121.8	NEUT	"
–			–		
–			–		
–			–		

INITIAL WATER RECORD			CORING RECORD			
INTERVAL	STAT LEV	TYPE	INTERVAL	LOCATION	NO.	rec.
–			–			
–			–			
–			–			
–			–			
–			–			
–			–			

GEOLOGICAL CONTACTS		TOP	ELEV	THICK	SILURIAN	A2 ANHYDRITE			
	KB / LAKE LEVEL	0.0				A1 CARBONATE			
	DRIFT / LAKE BOTTOM	1.3				A1 SALT			
DEVONIAN	PORT LAMBTON					A1 ANHYDRITE			
	KETTLE POINT					GUELPH			
	HAMILTON					ERAMOSA			
	MARCELLUS					GOAT ISLAND			
	DUNDEE	72.2				GASPORT/WHARTON			
	COLUMBUS					DECEW			
	LUCAS	117.7				ROCHESTER			
	AMHERSTBURG					IRONDEQUOIT			
	SYLVANIA					REYNALES/FOSSIL HILL			
	BOIS BLANC					THOROLD			
	SPRINGVALE					GRIMSBY			
	ORISKANY					CABOT HEAD			
SILURIAN	BASS ISLANDS					MANITOULIN			
	G SHALE					WHIRLPOOL			
	F SHALE				ORDOVICIAN	QUEENSTON			
	F SALT					BLUE MOUNTAIN - GEORG BAY			
	E CARBONATE					COLLINGWOOD			
	D SALT/EQUIVALENT					COBOURG			
	C SHALE					VERULAM			
	B MARKER					KIRKFIELD			
	B EQUIVALENT					COBOCONK			
	B SALT					GULL RIVER			
	B ANHYDRITE					SHADOW LAKE			
	A2 CARBONATE					CAMBRIAN			
	A2 SALT					PRECAMBRIAN			

GEOLOGY BY: T. R. Carter

CTY:	Elgin	TWP:	Aldborough	BLK:	–	TRAC:	4-6	LOT: 6	CON: V
WELL NAME:	Cdnoxy Rodney 7-20, Aldborough 4-6-6-V			PERMIT:	7068	INIT CLASS:			DEV
OPERATOR:	Canadian Occidental Petroleum Ltd.			TARGET:	DEV	CUR STATUS:			OP

DRILLING DATA				DATES		COORDINATES		SAMPLES	
CONTRACTOR:	Eagle Well Service Inc.			PERMIT:	86-11-07	NORTH:	361.1 m	TOP:	91.4
RIG TYPE:	ROT	DEPTHS		SPUD:	86-11-14	SOUTH:	– m	BOT:	121.9
CABLE TOP:	–	KB ELEV:	212.0	COMPTD:	86-11-16	EAST:	151.5 m	TRAY:	394
BOT:	–	LOGGER:	125.8	OFFCNF:	86-12-16	WEST:	– m		
ROTRY TOP:	1.2	DRILLER:	126.0	WRKOVR:	–	LAT:	42-34-56.5		
BOT:	126.0	DEEP END:	–	ABNDND:	–	LONG:	81-43-49		
DRLG FLD:	–	PLUG BK:	–						

INITIAL GAS RECORD			CASING AND TUBING RECORD				
INTERVAL	FLOW	SIP	DIAM.	WEIGHT	SET AT	HOW SET	RECOV.
–			177.8	25.3	81.6	CEM	–
–			114.3	14.1	126.5	CEM	–
–							
–							
–							
–							

COMPLETION DATA

GAS: – 10³m³/d

OIL: – m³/d

SIP: – kPa

FORM: Lucas

INTRVL: 121.4 – 125.0 m

m

m

PERF ☒ OPEN HOLE ☐

REMARKS

No samples for producing interval.

INITIAL OIL RECORD			LOGGING RECORD		
INTERVAL	FLOW	DENSITY	INTERVAL	TYPE	COMPANY
–			0 – 122.5	GRL	
–			0 – 125.0	NEUT	
–			–		
–			–		
–			–		

INITIAL WATER RECORD			CORING RECORD			
INTERVAL	STAT LEV	TYPE	INTERVAL	LOCATION	NO.	rec.
–			–			
–			–			
–			–			
–			–			
–			–			
–			–			

GEOLOGICAL CONTACTS		TOP	ELEV	THICK	SILURIAN	A2 ANHYDRITE			
	KB / LAKE LEVEL	0.0				A1 CARBONATE			
	DRIFT / LAKE BOTTOM	1.2				A1 SALT			
DEVONIAN	PORT LAMBTON					A1 ANHYDRITE			
	KETTLE POINT					GUELPH			
	HAMILTON					ERAMOSA			
	MARCELLUS					GOAT ISLAND			
	DUNDEE	79.4				GASPORT/WHARTON			
	COLUMBUS					DECEW			
	LUCAS	120.2				ROCHESTER			
	AMHERSTBURG					IRONDEQUOIT			
	SYLVANIA					REYNALES/FOSSIL HILL			
	BOIS BLANC					THOROLD			
	SPRINGVALE					GRIMSBY			
	ORISKANY					CABOT HEAD			
SILURIAN	BASS ISLANDS					MANITOULIN			
	G SHALE					WHIRLPOOL			
	F SHALE				ORDOVICIAN	QUEENSTON			
	F SALT					BLUE MOUNTAIN - GEORG BAY			
	E CARBONATE					COLLINGWOOD			
	D SALT/EQUIVALENT					COBOURG			
	C SHALE					VERULAM			
	B MARKER					KIRKFIELD			
	B EQUIVALENT					COBOCONK			
	B SALT					GULL RIVER			
	B ANHYDRITE					SHADOW LAKE			
	A2 CARBONATE					CAMBRIAN			
	A2 SALT					PRECAMBRIAN			

GEOLOGY BY: T. R. Carter

CTY:	Elgin	TWP:	Aldborough	BLK:	-	TRAC:	1-7	LOT:	6	CON:	V
WELL NAME:	Cdnoxy Rodney 7-21, Aldborough 1-7-6-V					PERMIT:	7069	INT CLASS:	DEV		
OPERATOR:	Canadian Occidental Petroleum Ltd.					TARGET:	DEV	CUR STATUS:	OP		

DRILLING DATA

CONTRACTOR:	Eagle Well Service Inc.		
RIG TYPE:	ROT	DEPTHS	
CABLE TOP:	-	KB ELEV:	212.2
BOT:	-	LOGGER:	127.2
ROTRY TOP:	1.2	DRILLER:	127.4
BOT:	127.4	DEEP END:	-
DRLG FLD:	-	PLUG BK:	-

DATES		COORDINATES			SAMPLES
PERMIT:	86-11-07	NORTH:	177.4	m	TOP:
SPUD:	86-11-18	SOUTH:	-	m	BOT:
COMPTD:	86-11-19	EAST:	151.0	m	TRAY:
OFFCNF:	86-12-19	WEST:	-	m	
WRKOVR:	-	LAT:	42-36-49.5		
ABNDND:	-	LONG:	81-43-52		

INITIAL GAS RECORD

INTERVAL	FLOW	BP
-		
-		
-		
-		
-		
-		

CASING AND TUBING RECORD

DIAM	WEIGHT	SET AT	HOW SET	RECOV
177.8	25.3	85	CEM	-
114.3	14.1	127.2	CEM	-

COMPLETION DATA

GAS:	-	$10^3 m^3/d$
OIL:	-	m^3/d
BP:	-	kPa
FORM:	Columbus	
INTRVL:	122.5 - 126.1	m
		m
		m
PERF ☒		OPEN HOLE ☐

INITIAL OIL RECORD

INTERVAL	FLOW	DENSITY
-		
-		
-		
-		
-		

LOGGING RECORD

INTERVAL	TYPE	COMPANY
0 - 125.0	GRL	COMP
0 - 122.0	NEUT	"
-		
-		
-		
-		
-		

REMARKS

No samples.

INITIAL WATER RECORD

INTERVAL	STAT LEV	TYPE
-		
-		
-		
-		
-		
-		

CORING RECORD

INTERVAL	LOCATION	NO.	mm
-			
-			
-			
-			
-			

	GEOLOGICAL CONTACTS	TOP	ELEV	THICK
	KB / LAKE LEVEL	0.0		
	DRIFT / LAKE BOTTOM	1.2		
DEVONIAN	PORT LAMBTON			
	KETTLE POINT			
	HAMILTON			
	MARCELLUS			
	DUNDEE	80.6		
	COLUMBUS	121.4		
	LUCAS			
	AMHERSTBURG			
	SYLVANIA			
	BOIS BLANC			
	SPRINGVALE			
	ORISKANY			
SILURIAN	BASS ISLANDS			
	G SHALE			
	F SHALE			
	F SALT			
	E CARBONATE			
	D SALT/EQUIVALENT			
	C SHALE			
	B MARKER			
	B EQUIVALENT			
	B SALT			
	B ANHYDRITE			
	A2 CARBONATE			
	A2 SALT			

SILURIAN	A2 ANHYDRITE			
	A1 CARBONATE			
	A1 SALT			
	A1 ANHYDRITE			
	GUELPH			
	ERAMOSA			
	GOAT ISLAND			
	GASPORT/WHARTON			
	DECEW			
	ROCHESTER			
	IRONDEQUOIT			
	REYNALES/FOSSIL HILL			
	THOROLD			
	GRIMSBY			
	CABOT HEAD			
	MANITOULIN			
	WHIRLPOOL			
ORDOVICIAN	QUEENSTON			
	BLUE MOUNTAIN - GEORG. BAY			
	COLLINGWOOD			
	COBOURG			
	VERULAM			
	KIRKFIELD			
	COBOCONK			
	GULL RIVER			
	SHADOW LAKE			
	CAMBRIAN			
	PRECAMBRIAN			

GEOLOGY BY: T. R. Carter

CTY:	Elgin	TWP:	Aldborough	BLK:	-	TRAC:	1-5	LOT:	D	CON:	VII
WELL NAME:	G.E.L. 16, Aldborough 1-5-D-VII					PERMIT:	6903	INT CLASS:	NFW		
OPERATOR:	Gaiswinkler Enterprises Ltd.					TARGET:	DEV	CUR STATUS:	DU-ABD		

DRILLING DATA

CONTRACTOR:	Lorne Newport		
RIG TYPE:	CAB	DEPTHS	
CABLE TOP:	0.6	KB ELEV:	214.0
BOT:	130.5	LOGGER:	-
ROTRY TOP:	-	DRILLER:	130.5
BOT:	-	DEEP END:	-
DRLG FLD:	-	PLUG BK:	-

DATES		COORDINATES			SAMPLES	
PERMIT:	86-10-17	NORTH:	-	m	TOP:	86.0
SPUD:	86-01-16	SOUTH:	732.7	m	BOT:	130.5
COMPTD:	86-03-04	EAST:	-	m	TRAY:	1915
OFFCNF:	87-03-04	WEST:	67.0	m		
WRKOVR:	-	LAT:	42-32-58			
ABNDND:	86-03-12	LONG:	81-43-21			

INITIAL GAS RECORD

INTERVAL	FLOW	BP
-		
-		
-		
-		
-		
-		

CASING AND TUBING RECORD

DIAM	WEIGHT	SET AT	HOW SET	RECOV
219	35.7	87.0	SHO	87.0
177.8	29.8	126.8	CEM	116.8

COMPLETION DATA

GAS:		$10^3 m^3/d$
OIL:		m^3/d
BP:		kPa
FORM:		
INTRVL:		m
		m
		m
PERF ☐		OPEN HOLE ☐

INITIAL OIL RECORD

INTERVAL	FLOW	DENSITY
-		
-		
-		
-		
-		

LOGGING RECORD

INTERVAL	TYPE	COMPANY
-		
-		
-		
-		
-		
-		
-		

REMARKS

INITIAL WATER RECORD

INTERVAL	STAT LEV	TYPE
61.0 - 62.2	27.4	FRE
-		
-		
-		
-		
-		

CORING RECORD

INTERVAL	LOCATION	NO.	mm
-			
-			
-			
-			
-			

	GEOLOGICAL CONTACTS	TOP	ELEV	THICK
	KB / LAKE LEVEL	0		
	DRIFT / LAKE BOTTOM	0.6		
DEVONIAN	PORT LAMBTON			
	KETTLE POINT			
	HAMILTON			
	MARCELLUS			
	DUNDEE	88.4		
	COLUMBUS			
	LUCAS	129.8		
	AMHERSTBURG			
	SYLVANIA			
	BOIS BLANC			
	SPRINGVALE			
	ORISKANY			
SILURIAN	BASS ISLANDS			
	G SHALE			
	F SHALE			
	F SALT			
	E CARBONATE			
	D SALT/EQUIVALENT			
	C SHALE			
	B MARKER			
	B EQUIVALENT			
	B SALT			
	B ANHYDRITE			
	A2 CARBONATE			
	A2 SALT			

SILURIAN	A2 ANHYDRITE			
	A1 CARBONATE			
	A1 SALT			
	A1 ANHYDRITE			
	GUELPH			
	ERAMOSA			
	GOAT ISLAND			
	GASPORT/WHARTON			
	DECEW			
	ROCHESTER			
	IRONDEQUOIT			
	REYNALES/FOSSIL HILL			
	THOROLD			
	GRIMSBY			
	CABOT HEAD			
	MANITOULIN			
	WHIRLPOOL			
ORDOVICIAN	QUEENSTON			
	BLUE MOUNTAIN - GEORG. BAY			
	COLLINGWOOD			
	COBOURG			
	VERULAM			
	KIRKFIELD			
	COBOCONK			
	GULL RIVER			
	SHADOW LAKE			
	CAMBRIAN			
	PRECAMBRIAN			

GEOLOGY BY: T. R. Carter

CTY: Elgin TWP: Dunwich BLK: - TRAC: 2 LOT: 24 CON: A
WELL NAME: Reen-Bedford, Dunwich 2-24-A PERMIT: 6997 INIT CLASS: NPW
OPERATOR: Reen Petroleum TARGET: CAM CUR STATUS: OSGS-ABD

DRILLING DATA			
CONTRACTOR:	Rawlings Drilling Co.		
RIG TYPE:	CAB	DEPTHS	
CABLE TOP:	0.9	KB ELEV:	231.7
BOT:	1125.9	LOGGER:	1123.5
ROTRY TOP:	-	DRILLER:	1125.9
BOT:	-	DEEP END:	-
DRLG FLD:	-	PLUG BK:	-

DATES	
PERMIT:	86-03-05
SPUD:	86-03-13
COMPTD:	86-06-10
OFFCNF:	87-06-10
WRKOVR:	-
ABNDND:	86-06-25

COORDINATES		
NORTH:	-	m
SOUTH:	131.4	m
EAST:	131.1	m
WEST:	-	m
LAT:	42-32-43	
LONG:	81-27-02	

SAMPLES	
TOP:	89.0
BOT:	1125.9
TRAY:	9134- 35

INITIAL GAS RECORD

INTERVAL	FLOW	BHP
1052.8 – 1054.6	-	-
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–		

CASING AND TUBING RECORD

DIAM.	WEIGHT	SET AT	HOW SET	RECOV.
273	60.2	89.8	SHO	89.8
216	35.7	328.5	PAC	318.5
178	34.2	524.6	CEM	439.2

COMPLETION DATA
GAS: $10^3 m^3/d$
OIL: m^3/d
BHP: kPa
FORM:
INTRVL: m
m
m
PERF ☐ OPEN HOLE ☐
REMARKS

INITIAL OIL RECORD

INTERVAL	FLOW	DENSITY
100.6 – -	-	-
423.7 – -	-	-
1038.8 – 1041.2	-	-
1112.2 – 1113.4	-	-
–		

LOGGING RECORD

INTERVAL	TYPE	COMPANY
4.6 – 1120.4	GRL	COMP
4.6 – 1123.5	NEUT	"
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INITIAL WATER RECORD

INTERVAL	STAT. LEV.	TYPE
120.4 – -	61.0	SUL
431.6 – -	152.4	SAL
1123 – 1125.9	823.0	SAL
–		
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–		

CORING RECORD

INTERVAL	LOCATION	NO.	mm
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–			

	GEOLOGICAL CONTACTS	TOP	ELEV	THICK
	KB / LAKE LEVEL	0		
	DRIFT / LAKE BOTTOM	0.9		
DEVONIAN	PORT LAMBTON			
	KETTLE POINT			
	HAMILTON	88.4		
	MARCELLUS			
	DUNDEE	89.9		
	COLUMBUS	121.0		
	LUCAS	122.0		
	AMHERSTBURG	157.0		
	SYLVANIA			
	BOIS BLANC	210.0		
	SPRINGVALE			
	ORISKANY			
SILURIAN	BASS ISLANDS	248.5		
	G SHALE	281.3		
	F SHALE	290.2		
	F SALT			
	E CARBONATE	331.6		
	D SALT/EQUIVALENT			
	C SHALE	357.5		
	B MARKER	367.6		
	B EQUIVALENT	372.8		
	B SALT			
	B ANHYDRITE	381.9		
	A2 CARBONATE	385.6		
	A2 SALT			
SILURIAN	A2 ANHYDRITE	401.7		
	A1 CARBONATE	402.9		
	A1 SALT			
	A1 ANHYDRITE			
	GUELPH	415.0		
	ERAMOSA			
	GOAT ISLAND	447.1		
	GASPORT/WARTON	489.5		
	DECEW			
	ROCHESTER	497.4		
	IRONDEQUOIT			
	REYNALES/FOSSIL HILL	510.8		
	THOROLD			
	GRIMSBY			
	CABOT HEAD	516.9		
	MANITOULIN	545.0		
	WHIRLPOOL			
ORDOVICIAN	QUEENSTON	553.5		
	BLUE MOUNTAIN - GEORG. BAY	695.6		
	COLLINGWOOD			
	COBOURG	869.0		
	VERULAM	896.7		
	KIRKFIELD	952.5		
	COBOCONK	1009.8		
	GULL RIVER	1034.5		
	SHADOW LAKE	1120.1		
	CAMBRIAN	1121.0		
	PRECAMBRIAN			

GEOLOGY BY: T. R. Carter

CTY: Elgin TWP: Southwold BLK: - TRAC: - LOT: C CON: Plan 39
WELL NAME: Consumers 36047 Southwold C Plan 39 PERMIT: 6984 INIT CLASS: NPW
OPERATOR: The Consumers' Gas Co. Ltd. TARGET: CAM CUR STATUS: GS- BD

DRILLING DATA			
CONTRACTOR:	Underwater Gas Developers Ltd.		
RIG TYPE:	ROT	DEPTHS	
CABLE TOP:	-	KB ELEV:	217.8
BOT:	-	LOGGER:	1153.5
ROTRY TOP:	3.0	DRILLER:	1155.0
BOT:	1155.0	DEEP END:	-
DRLG FLD:	-	PLUG BK:	1144.0

DATES	
PERMIT:	86-02-20
SPUD:	86-02-18
COMPTD:	86-02-24
OFFCNF:	87-02-24
WRKOVR:	87-12-10
ABNDND:	-

COORDINATES		
NORTH:	212.5	m
SOUTH:	-	m
EAST:	106.5	m
WEST:	-	m
LAT:	42-40-47	
LONG:	81-14-11.5	

SAMPLES	
TOP:	114
BOT:	1152
TRAY:	9136- 37

INITIAL GAS RECORD

INTERVAL	FLOW	BHP
114.0 – -	-	-
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CASING AND TUBING RECORD

DIAM.	WEIGHT	SET AT	HOW SET	RECOV.
244	54.0	109.8	CEM	-
178	29.8	479.4	CEM	-
114	14.0	1145.0	CEM	-
60	7.0	1109.0	HAN	-

COMPLETION DATA
GAS: $10^3 m^3/d$
OIL: m^3/d
BHP: kPa
FORM:
INTRVL: m
m
m
PERF ☒ OPEN HOLE ☐
REMARKS
30.0-1138.3 | CBND | SC

INITIAL OIL RECORD

INTERVAL	FLOW	DENSITY
–		
–		
–		
–		
–		

LOGGING RECORD

INTERVAL	TYPE	COMPANY
30.0 – 1138.3	CMPL	SCH
30.0 – 1144.5	GRL	"
30.0 – 1147.0	CNL	"
479.0 – 1153.5	LDT	"
479.0 – 1153.5	PEF	"
860.0 – 1150.5	LATL	"
860.0 – 1153.5	MSFL	"

INITIAL WATER RECORD

INTERVAL	STAT. LEV.	TYPE
456.0 – -	-	SUL
1114.0 – -	-	SAL
–		
–		
–		
–		

CORING RECORD

INTERVAL	LOCATION	NO.	mm
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–			
–			
–			

	GEOLOGICAL CONTACTS	TOP	ELEV	THICK
	KB / LAKE LEVEL	0		
	DRIFT / LAKE BOTTOM	3.0		
DEVONIAN	PORT LAMBTON			
	KETTLE POINT			
	HAMILTON			
	MARCELLUS			
	DUNDEE	98.3		
	COLUMBUS			
	LUCAS	117.0		
	AMHERSTBURG	159.0		
	SYLVANIA			
	BOIS BLANC	201.0		
	SPRINGVALE			
	ORISKANY			
SILURIAN	BASS ISLANDS	244.0		
	G SHALE	257.7		
	F SHALE	266.3		
	F SALT			
	E CARBONATE	306.1		
	D SALT/EQUIVALENT			
	C SHALE	325.9		
	B MARKER	339.5		
	B EQUIVALENT	345.3		
	B SALT			
	B ANHYDRITE	354.0		
	A2 CARBONATE	357.2		
	A2 SALT			
SILURIAN	A2 ANHYDRITE	374.9		
	A1 CARBONATE	377.2		
	A1 SALT			
	A1 ANHYDRITE			
	GUELPH	382.9		
	ERAMOSA			
	GOAT ISLAND	403.6		
	GASPORT/WARTON	460.8		
	DECEW			
	ROCHESTER	463.4		
	IRONDEQUOIT			
	REYNALES/FOSSIL HILL	480.5		
	THOROLD			
	GRIMSBY			
	CABOT HEAD	484.0		
	MANITOULIN	510.6		
	WHIRLPOOL			
ORDOVICIAN	QUEENSTON	517.9		
	BLUE MOUNTAIN - GEORG. BAY	673.5		
	COLLINGWOOD			
	COBOURG	861.7		
	VERULAM	885.6		
	KIRKFIELD	969.8		
	COBOCONK	999.0		
	GULL RIVER	1021.3		
	SHADOW LAKE	1104.2		
	CAMBRIAN	1107.7		
	PRECAMBRIAN	1143.0		

GEOLOGY BY: T. R. Carter

CTY: Essex	TWP: Colchester South	BLK: -	TRAC: -	LOT: 13-76	CON: Front
WELL NAME: PPC 9, Colchester South J-13-76-Front		PERMIT: 7053		INIT CLASS: NFW	
OPERATOR: Paladian Petroleum Corporation		TARGET: ORD		CUR STATUS: DH-ABD	

DRILLING DATA				DATES		COORDINATES			SAMPLES	
CONTRACTOR:	Underwater Gas Developers			PERMIT:	86-10-16	NORTH:		m	TOP:	0
RIG TYPE:	ROT	DEPTHS		SPUD:	86-10-18	SOUTH:	- 1122.0	m	BOT:	937
CABLE TOP:	-	KB ELEV:	193.3	COMPTD:	86-10-25	EAST:	-	m	TRAY:	9156-57
BOT:	-	LOGGER:	936.3	OFFCNF:	87-10-25	WEST:	64.9	m		
ROTRY TOP:	3.0	DRILLER:	93.7	WRKOVR:	-	LAT:	42-00-32			
BOT:	937.0	DEEP END:	-	ABNDND:	86-10-28	LONG:	82-56-53			
DRLG FLD:	-	PLUG BK:	-							

INITIAL GAS RECORD		
INTERVAL	FLOW	SIP
—		
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—		
—		

CASING AND TUBING RECORD				
DIAM.	WEIGHT	SET AT	HOW SET	RECOV.
244	54	145.0	CEM	-
178	36	411.5	CEM	246

COMPLETION DATA	
GAS:	$10^3m^3/d$
OIL:	m^3/d
SIP:	kPa
FORM:	
INTRVL:	m
	m
	m
PERF ☐	OPEN HOLE ☐
REMARKS	

INITIAL OIL RECORD		
INTERVAL	FLOW	DENSITY
—		
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—		
—		
—		

LOGGING RECORD		
INTERVAL	TYPE	COMPANY
30.0 – 926.0	GRL	SCH
30.0 – 929.0	CNL	"
411.0 – 935.5	LDT	"
411.0 – 935.5	PEF	"
550.0 – 936.0	NGRS	"
625.0 – 929.0	LATL	"
625.0 – 933.0	XSFL	"

INITIAL WATER RECORD		
INTERVAL	STAT LEV.	TYPE
280 — -	-	SUL
910 — -	-	SAL
—		
—		
—		
—		

CORING RECORD			
INTERVAL	LOCATION	NO.	mm
—			
—			
—			
—			
—			

GEOLOGICAL CONTACTS		TOP	ELEV.	THICK		A2 ANHYDRITE	268.4		
	KB / LAKE LEVEL	0.0				A1 CARBONATE	271.5		
	DRIFT / LAKE BOTTOM	3.0				A1 SALT			
DEVONIAN	PORT LAMBTON					A1 ANHYDRITE			
	KETTLE POINT					GUELPH	287.0		
	HAMILTON					ERAMOSA			
	MARCELLUS				SILURIAN	GOAT ISLAND	298.5		
	DUNDEE					GASPORT/WHARTON	351.9		
	COLUMBUS					DECEW			
	LUCAS					ROCHESTER	395.7		
	AMHERSTBURG	37.2				IRONDEQUOIT			
	SYLVANIA					REYNALES/FOSSIL HILL	399.2		
	BOIS BLANC	57.0				THOROLD			
	SPRINGVALE					GRIMSBY			
	ORISKANY					CABOT HEAD	400.8		
SILURIAN	BASS ISLANDS	69.5				MANITOULIN	435.0		
	G SHALE	117.7				WHIRLPOOL			
	F SHALE	126.0			ORDOVICIAN	QUEENSTON	446.8		
	F SALT					BLUE MOUNTAIN - GEORG. BAY	520.7		
	E CARBONATE	174.1				COLLINGWOOD			
	D SALT/EQUIVALENT					COBOURG	651.2		
	C SHALE	207.9				VERULAM	657.0		
	B MARKER	220.0				KIRKFIELD	706.0		
	B EQUIVALENT	226.7				COBOCONK	752.1		
	B SALT					GULL RIVER	795.5		
	B ANHYDRITE	239.2				SHADOW LAKE	905.0		
	A2 CARBONATE	245.0				CAMBRIAN	911.5		
	A2 SALT					PRECAMBRIAN			

GEOLOGY BY: T. R, Carter

CTY: Essex	TWP: Gosfield North	BLK:	TRAC: 3	LOT: 13	CON: XI
WELL NAME: Brett Bro Gosfield North 3-13-XI		PERMIT: 6953		INIT CLASS: NFW	
OPERATOR: H. Brett & Associates Ltd.		TARGET: ORD		CUR STATUS: LOST HOLE-ABD	

DRILLING DATA				DATES		COORDINATES			SAMPLES	
CONTRACTOR:	Bothwell Drilling & Servicing			PERMIT:	85-12-10	NORTH:		m	TOP:	32.0
RIG TYPE:	Rotary	DEPTHS		SPUD:	86-01-10	SOUTH:	643.1	m	BOT:	131.1
CABLE TOP:		KB ELEV:	189.6	COMPTD:	86-01-17	EAST:	194.8	m	TRAY:	397
BOT:		LOGGER:		OFFCNF:	87-01-17	WEST:		m		
ROTRY TOP:	2.1	DRILLER:	135.6	WRKOVR:		LAT:				
BOT:	135.6	DEEP END:		ABNDND:	86-11-03	LONG:				
DRLG FLD:		PLUG BK:								

INITIAL GAS RECORD		
INTERVAL	FLOW	SIP
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—		

CASING AND TUBING RECORD				
DIAM.	WEIGHT	SET AT	HOW SET	RECOV.
273		36.6	CEM	0

COMPLETION DATA	
GAS:	$10^3m^3/d$
OIL:	m^3/d
SIP:	kPa
FORM:	
INTRVL:	m
	m
	m
PERF ☐	OPEN HOLE ☐
REMARKS	
Lost hole	

INITIAL OIL RECORD		
INTERVAL	FLOW	DENSITY
—		
—		
—		
—		
—		

LOGGING RECORD		
INTERVAL	TYPE	COMPANY
—		
—		
—		
—		
—		
—		
—		

INITIAL WATER RECORD		
INTERVAL	STAT LEV	TYPE
70.1 —		SUL
—		
—		
—		
—		
—		

CORING RECORD			
INTERVAL	LOCATION	NO.	mm
—			
—			
—			
—			
—			

GEOLOGICAL CONTACTS		TOP	ELEV.	THICK		A2 ANHYDRITE			
	KB / LAKE LEVEL	0.0				A1 CARBONATE			
	DRIFT / LAKE BOTTOM	2.1				A1 SALT			
DEVONIAN	PORT LAMBTON					A1 ANHYDRITE			
	KETTLE POINT					GUELPH			
	HAMILTON					ERAMOSA			
	MARCELLUS				SILURIAN	GOAT ISLAND			
	DUNDEE	32.0				GASPORT/WHARTON			
	COLUMBUS	64.0				DECEW			
	LUCAS	70.3				ROCHESTER			
	AMHERSTBURG	106.0				IRONDEQUOIT			
	SYLVANIA					REYNALES/FOSSIL HILL			
	BOIS BLANC					THOROLD			
	SPRINGVALE					GRIMSBY			
	ORISKANY					CABOT HEAD			
SILURIAN	BASS ISLANDS					MANITOULIN			
	G SHALE					WHIRLPOOL			
	F SHALE				ORDOVICIAN	QUEENSTON			
	F SALT					BLUE MOUNTAIN - GEORG. BAY			
	E CARBONATE					COLLINGWOOD			
	D SALT/EQUIVALENT					COBOURG			
	C SHALE					VERULAM			
	B MARKER					KIRKFIELD			
	B EQUIVALENT					COBOCONK			
	B SALT					GULL RIVER			
	B ANHYDRITE					SHADOW LAKE			
	A2 CARBONATE					CAMBRIAN			
	A2 SALT					PRECAMBRIAN			

GEOLOGY BY: T.R. Carter

CTY: Essex	TWP: Gosfield North	BLK: -	TRAC: 3	LOT: 13	CON: XI
WELL NAME: Brett-Bro, Gosfield N, 3-13-XI		PERMIT: 6953 A		INIT CLASS: NFW	
OPERATOR: H. Brett & Associates Ltd		TARGET: ORD		CUR STATUS: DH-ABD	

DRILLING DATA		DATES	COORDINATES	SAMPLES
CONTRACTOR: Bothwell Drilling & Servicing &		PERMIT: 85-12-10	NORTH: - m	TOP: 31.7
RIG TYPE: ROT/CAB J. Newport	DEPTHS	SPUD: 86-01-31	SOUTH: 643.1 m	BOT: 942.0
CABLE TOP: 797	KB ELEV: 189.1	COMPTD: 86-10-23	EAST: 190.8 m	TRAY: 9158 -
BOT: 942	LOGGER: 919.5	OFFCNF: 87-10-30	WEST: - m	59
ROTRY TOP: 1.6	DRILLER: 942.0	WRKOVR: -	LAT: 42-10-5.5	
BOT: 797	DEEP END: -	ABNDND: 86-10-30	LONG: 82-43-42.5	
DRLG FLD: -	PLUG BK: -			

INITIAL GAS RECORD

INTERVAL	FLOW	SIP
475 — 477	-	-
—		
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—		
—		

CASING AND TUBING RECORD

DIAM.	WEIGHT	SET AT	HOW SET	RECOV
273	50.5	56.7	CEM	-
177.8	34.2	436.5	CEM	345.9
139.7	25.3	797	CEM	594

COMPLETION DATA

GAS: 10³m³/d
OIL: m³/d
SIP: kPa
FORM:
INTRVL: m
m
m
PERF ☐ OPEN HOLE ☐

INITIAL OIL RECORD

INTERVAL	FLOW	DENSITY
880 — -	-	-
—		
—		
—		
—		

LOGGING RECORD

INTERVAL	TYPE	COMPANY
747.0 — 913.5	GRL	SCH
747.0 — 918.0	CNL	"
797.0 — 919.0	LDT	"
747 — 919.0	PEF	"
—		
—		
—		

REMARKS

INITIAL WATER RECORD

INTERVAL	STAT. LEV.	TYPE
44.8 — -	-	-
62.8 — -	-	BLACK
455.7 — -	-	SAL
469.4 — -	-	SAL
—		
—		

CORING RECORD

INTERVAL	LOCATION	NO.	mm
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—			
—			

	GEOLOGICAL CONTACTS	TOP	ELEV	THICK
	KB / LAKE LEVEL	0.0		
	DRIFT / LAKE BOTTOM	1.6		
DEVONIAN	PORT LAMBTON			
	KETTLE POINT			
	HAMILTON			
	MARCELLUS			
	DUNDEE	36.6		
	COLUMBUS			
	LUCAS	67.1		
	AMHERSTBURG	100.6		
	SYLVANIA			
	BOIS BLANC	161.0		
	SPRINGVALE			
	ORISKANY			
SILURIAN	BASS ISLANDS	176.8		
	G SHALE	225.6		
	F SHALE	231.6		
	F SALT			
	E CARBONATE	277.4		
	D SALT/EQUIVALENT			
	C SHALE	310.9		
	B MARKER	326.2		
	B EQUIVALENT			
	B SALT			
	B ANHYDRITE	344.5		
	A2 CARBONATE	353.5		
	A2 SALT			

SILURIAN	A2 ANHYDRITE	372		
	A1 CARBONATE	374		
	A1 SALT			
	A1 ANHYDRITE			
	GUELPH	386.0		
	ERAMOSA			
	GOAT ISLAND	435.9		
	GASPORT/WARTON	469.0		
	DECEW			
	ROCHESTER	502.9		
	IRONDEQUOIT			
	REYNALES/FOSSIL HILL	506.0		
	THOROLD			
	GRIMSBY			
	CABOT HEAD	512.1		
	MANITOULIN	551.0		
	WHIRLPOOL			
ORDOVICIAN	QUEENSTON	563.0		
	BLUE MOUNTAIN - GEORG. BAY	655.3		
	COLLINGWOOD			
	COBOURG	765.5		
	VERULAM	769.6		
	KIRKFIELD	830.6		
	COBOCONK	877.0		
	GULL RIVER			
	SHADOW LAKE			
	CAMBRIAN			
	PRECAMBRIAN			

GEOLOGY BY: T. R. Carter

CTY: Essex	TWP: Gosfield South	BLK: -	TRAC: 8	LOT: 5	CON: III
WELL NAME: Consumers' 34212, Gosfield South 8-5-III		PERMIT: 7051		INIT CLASS: NFW	
OPERATOR: The Consumers' Gas Company Ltd.		TARGET: ORD		CUR STATUS: GS-ABD	

DRILLING DATA		DATES	COORDINATES	SAMPLES
CONTRACTOR: Underwater Gas Developers Ltd.		PERMIT: 86-10-10	NORTH: 108.2 m	TOP: 20
RIG TYPE: ROT	DEPTHS	SPUD: 86-10-30	SOUTH: - m	BOT: 1040
CABLE TOP: -	KB ELEV: 194.3	COMPTD: 86-11-07	EAST: - m	TRAY: 9164-65
BOT: -	LOGGER: 1040.8	OFFCNF: 87-11-07	WEST: 193.6 m	
ROTRY TOP: 3.0	DRILLER: 1040.0	WRKOVR: -	LAT: 42-04-06	
BOT: 1040	DEEP END: -	ABNDND: 86-11-12	LONG: 82-48-05	
DRLG FLD: -	PLUG BK: -			

INITIAL GAS RECORD

INTERVAL	FLOW	SIP
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CASING AND TUBING RECORD

DIAM.	WEIGHT	SET AT	HOW SET	RECOV
244	54	48.3	CEM	-
178	29.8	470.2	CEM	-

COMPLETION DATA

GAS: 10³m³/d
OIL: m³/d
SIP: kPa
FORM:
INTRVL: m
m
m
PERF ☐ OPEN HOLE ☐

INITIAL OIL RECORD

INTERVAL	FLOW	DENSITY
743.0 — -	-	-
—		
—		
—		
—		

LOGGING RECORD

INTERVAL	TYPE	COMPANY
2.0 — 1036.0	SONL	SCH
2.0 — 1031.0	GRL	"
25.0 — 1033.5	CNL	"
25.0 — 1040.0	LDT	"
25.0 — 1040.0	PEF	"
48.0 — 1036.5	LATL	"
48.0 — 1040.5	MSFL	"

REMARKS

LOGGING RECORD
48.0 - 1028.5 MGRS SC

INITIAL WATER RECORD

INTERVAL	STAT. LEV.	TYPE
139.0 — -	-	SUL
345.0 — -	-	SUL
763.0 — -	-	SAL
985.0 — -	-	SAL
—		
—		

CORING RECORD

INTERVAL	LOCATION	NO.	mm
—			
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—			
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—			

	GEOLOGICAL CONTACTS	TOP	ELEV	THICK
	KB / LAKE LEVEL	0.0		
	DRIFT / LAKE BOTTOM	3.0		
DEVONIAN	PORT LAMBTON			
	KETTLE POINT			
	HAMILTON			
	MARCELLUS			
	DUNDEE			
	COLUMBUS			
	LUCAS	31.0		
	AMHERSTBURG	53.0		
	SYLVANIA			
	BOIS BLANC	83.0		
	SPRINGVALE	92.5		
	ORISKANY			
SILURIAN	BASS ISLANDS	110.0		
	G SHALE	162.7		
	F SHALE	170.0		
	F SALT			
	E CARBONATE	210.5		
	D SALT/EQUIVALENT	235.6		
	C SHALE	239.5		
	B MARKER	278.0		
	B EQUIVALENT	284.8		
	B SALT			
	B ANHYDRITE	295.6		
	A2 CARBONATE	302.0		
	A2 SALT			

SILURIAN	A2 ANHYDRITE	323.4		
	A1 CARBONATE	328.2		
	A1 SALT			
	A1 ANHYDRITE			
	GUELPH	336.3		
	ERAMOSA			
	GOAT ISLAND	409.0		
	GASPORT/WARTON	425.2		
	DECEW			
	ROCHESTER	466.0		
	IRONDEQUOIT			
	REYNALES/FOSSIL HILL	469.2		
	THOROLD			
	GRIMSBY			
	CABOT HEAD	473.8		
	MANITOULIN	511.9		
	WHIRLPOOL			
ORDOVICIAN	QUEENSTON	521.8		
	BLUE MOUNTAIN - GEORG. BAY	606.2		
	COLLINGWOOD			
	COBOURG	732.0		
	VERULAM	735.0		
	KIRKFIELD	787.1		
	COBOCONK	829.2		
	GULL RIVER	868.6		
	SHADOW LAKE	967.2		
	CAMBRIAN	973.2		
	PRECAMBRIAN	1024.5		

GEOLOGY BY: T. R. Carter

CTY:	Essex	TWP:	Maidstone	BLK:	-	TRAC:	8	LOT:	12
CON:	SMR								
WELL NAME	Ram 92, Maidstone 8-12-SMR			PERMIT:	6995	INIT CLASS:	NFW		
OPERATOR:	Ram Petroleums Ltd.			TARGET:	ORD	CUR STATUS:	OS-ABD		

DRILLING DATA				DATES		COORDINATES			SAMPLES	
CONTRACTOR:	Corunna Drilling Ltd.			PERMIT:	86-02-28	NORTH:	106.7	m	TOP:	65
RIG TYPE:	ROT	DEPTHS		SPUD:	86-03-02	SOUTH:	-	m	BOT:	1083
CABLE TOP:	-	KB ELEV:	192.3	COMPTD:	86-03-16	EAST:	-	m	TRAY:	9154-55
BOT:	-	LOGGER:	1083.0	OFFCNF:	87-03-16	WEST:	188.3	m		
ROTRY TOP:	3.7	DRILLER:	1083.8	WRKOVR:	-	LAT:	42-12-19			
BOT:	1083	DEEP END:	-	ABNDND:	-	LONG:	82-47-24			
DRLG FLD:	-	PLUG BK:	1069.5							

INITIAL GAS RECORD

INTERVAL	FLOW	BHP
-		
-		
-		
-		
-		
-		

CASING AND TUBING RECORD

DIAM	WEIGHT	SET AT	HOW SET	RECOV
299	62.5	58.0	CEM	-
219	35.7	390.0	CEM	-
140	20.8	1079.0	CEM	-

COMPLETION DATA

GAS:		$10^3 m^3/d$
OIL:		m^3/d
BHP:		kPa
FORM:		
INTRVL:		m
		m
		m
PERF ☒		OPEN HOLE ☐

INITIAL OIL RECORD

INTERVAL	FLOW	DENSITY
780.7 - 800.0	-	-
874.0 - 882.0	-	-
900.0 - 903.0	-	-
-		
-		

LOGGING RECORD

INTERVAL	TYPE	COMPANY
220.0 - 1073.0	GRL	SCH
373.0 - 1076.0	CNL	"
373.0 - 1083.0	LDT	"
220.0 - 1080.5	SONL	"
373.0 - 1083.0	PEF	"
390.0 - 1083.0	MSFL	"
390.0 - 1079.0	LATL	"

REMARKS

Lost circulation at 75 m. and 122 m. No samples from 122 to 312 m.

INITIAL WATER RECORD

INTERVAL	STAT LEV	TYPE
-		
-		
-		
-		
-		
-		

CORING RECORD

INTERVAL	LOCATION	NO.	mm
-			
-			
-			
-			
-			

GEOLOGICAL CONTACTS		TOP	ELEV	THICK
	KB / LAKE LEVEL	0		
	DRIFT / LAKE BOTTOM	3.7		
DEVONIAN	PORT LAMBTON			
	KETTLE POINT			
	HAMILTON			
	MARCELLUS			
	DUNDEE			
	COLUMBUS			
	LUCAS	65.0		
	AMHERSTBURG	110.0		
	SYLVANIA			
	BOIS BLANC			
	SPRINGVALE			
	ORISKANY			
SILURIAN	BASS ISLANDS			
	G SHALE	241.2		
	F SHALE	247.0		
	F SALT			
	E CARBONATE	290.0		
	D SALT/EQUIVALENT			
	C SHALE	320.0		
	B MARKER	350.5		
	B EQUIVALENT	356.9		
	B SALT			
	B ANHYDRITE	365.7		
	A2 CARBONATE	375.2		
	A2 SALT			

SILURIAN	A2 ANHYDRITE	394.0		
	A1 CARBONATE	401.0		
	A1 SALT			
	A1 ANHYDRITE			
	GUELPH	414.9		
	ERAMOSA			
	GOAT ISLAND			
	GASPORT/WIARTON			
	DECEW			
	ROCHESTER	529.1		
	IRONDEQUOIT			
	REYNALES/FOSSIL HILL	533.6		
	THOROLD			
	GRIMSBY			
	CABOT HEAD	537.1		
	MANITOULIN	574.5		
	WHIRLPOOL			
ORDOVICIAN	QUEENSTON	585.9		
	BLUE MOUNTAIN - GEORG. BAY	664.8		
	COLLINGWOOD			
	COBOURG	781.0		
	VERULAM	796.0		
	KIRKFIELD	849.5		
	COBOCONK	895.8		
	GULL RIVER	924.5		
	SHADOW LAKE	1038.0		
CAMBRIAN		1040.0		
PRECAMBRIAN				

GEOLOGY BY: T. R. Carter

CTY:	Essex	TWP:	Mersea	BLK:	-	TRAC:	3	LOT:	13
CON:	A								
WELL NAME	Cons et al 34054, Mersea 3-13-A			PERMIT:	7018	INIT CLASS:	BD		
OPERATOR:	The Consumers' Gas Co. Ltd.			TARGET:	SAL	CUR STATUS:			

DRILLING DATA				DATES		COORDINATES			SAMPLES	
CONTRACTOR:	Eagle Drilling Services Ltd.			PERMIT:	86-05-27	NORTH:	-	m	TOP:	24
RIG TYPE:	ROT	DEPTHS		SPUD:	86-05-28	SOUTH:	522.6	m	BOT:	184
CABLE TOP:	-	KB ELEV:	177.7	COMPTD:	86-06-02	EAST:	216.0	m	TRAY:	5233
BOT:	-	LOGGER:	-	OFFCNF:	86-07-02	WEST:	-	m		
ROTRY TOP:	1.0	DRILLER:	184.0	WRKOVR:	-	LAT:	42-01-37			
BOT:	184.0	DEEP END:	-	ABNDND:	-	LONG:	82-33-16			
DRLG FLD:	-	PLUG BK:	-							

INITIAL GAS RECORD

INTERVAL	FLOW	BHP
-		
-		
-		
-		
-		
-		

CASING AND TUBING RECORD

DIAM	WEIGHT	SET AT	HOW SET	RECOV
178	29.8	23.0	CEM	-
114.3	14.0	119.3	CEM	-
60	7.0	125.4	HAN	-

COMPLETION DATA

GAS:		$10^3 m^3/d$
OIL:		m^3/d
BHP:		kPa
FORM:		
INTRVL:		m
		m
		m
PERF ☐		OPEN HOLE ☒

INITIAL OIL RECORD

INTERVAL	FLOW	DENSITY
-		
-		
-		
-		
-		

LOGGING RECORD

INTERVAL	TYPE	COMPANY
0 - 184.0	GRL	COMP
0 - 184.0	NEUT	"
20.0 - 184.0	DENL	"
0 - 119.0	CBND	"
-		
-		
-		

REMARKS

INITIAL WATER RECORD

INTERVAL	STAT LEV	TYPE
76.0 - -	-	SUL
153.0 - -	-	SUL
-		
-		
-		
-		

CORING RECORD

INTERVAL	LOCATION	NO.	mm
-			
-			
-			
-			
-			

GEOLOGICAL CONTACTS		TOP	ELEV	THICK
	KB / LAKE LEVEL	0		
	DRIFT / LAKE BOTTOM	1.0		
DEVONIAN	PORT LAMBTON			
	KETTLE POINT			
	HAMILTON			
	MARCELLUS			
	DUNDEE	20.1		
	COLUMBUS			
	LUCAS	57.5		
	AMHERSTBURG	76.0		
	SYLVANIA			
	BOIS BLANC	125.0		
	SPRINGVALE			
	ORISKANY			
SILURIAN	BASS ISLANDS	142.5		
	G SHALE			
	F SHALE			
	F SALT			
	E CARBONATE			
	D SALT/EQUIVALENT			
	C SHALE			
	B MARKER			
	B EQUIVALENT			
	B SALT			
	B ANHYDRITE			
	A2 CARBONATE			
	A2 SALT			

SILURIAN	A2 ANHYDRITE			
	A1 CARBONATE			
	A1 SALT			
	A1 ANHYDRITE			
	GUELPH			
	ERAMOSA			
	GOAT ISLAND			
	GASPORT/WIARTON			
	DECEW			
	ROCHESTER			
	IRONDEQUOIT			
	REYNALES/FOSSIL HILL			
	THOROLD			
	GRIMSBY			
	CABOT HEAD			
	MANITOULIN			
	WHIRLPOOL			
ORDOVICIAN	QUEENSTON			
	BLUE MOUNTAIN - GEORG. BAY			
	COLLINGWOOD			
	COBOURG			
	VERULAM			
	KIRKFIELD			
	COBOCONK			
	GULL RIVER			
	SHADOW LAKE			
CAMBRIAN				
PRECAMBRIAN				

GEOLOGY BY

T. R. Carter

CTY: Essex	TWP: Mersea	BLK: -	TRAC: 7	LOT: 14	CON: I
WELL NAME: Cons. et al 34104 , Mersea 7-14-I		PERMIT: 7077		INIT CLASS: DEV	
OPERATOR: The Consumers' Gas Co. Ltd.		TARGET: ORD		CUR STATUS: OS-ABD	

DRILLING DATA		DATES	COORDINATES	SAMPLES
CONTRACTOR: Underwater Gas Developers Ltd.		PERMIT: 86-12-06	NORTH: 106.7 m	TOP: 0 m
RIG TYPE: ROT	DEPTHS	SPUD: 86-12-08	SOUTH: - m	BOT: 1069 m
CABLE TOP: -	KB ELEV: 180.9 m	COMPTD: 86-12-15	EAST: 128.0 m	TRAY: 9168-69
BOT: -	LOGGER: 1066.5 m	OFFCNF: 87-01-14	WEST: - m	
ROTRY TOP: 3.0 m	DRILLER: 1069.0 m	WRKOVR: -	LAT: 42-01-58	
BOT: 1069.0 m	DEEP END:	ABNDND: 86-12-17	LONG: 82-32-52	
DRLG FLD: -	PLUG BK:			

INITIAL GAS RECORD

INTERVAL	FLOW	BHP
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CASING AND TUBING RECORD

DIAM.	WEIGHT	SET AT	HOW SET	RECOV.
244	54	40.6	CEM	-
178	29.8	485.9	CEM	

COMPLETION DATA

GAS:	$10^3 m^3/d$
OIL:	m^3/d
BHP:	kPa
FORM:	
INTRVL:	m
	m
	m
PERF ☐	OPEN HOLE ☐
REMARKS	
40.0 - 1066.0 MSFL "	

INITIAL OIL RECORD

INTERVAL	FLOW	DENSITY
944.0 – 945.0	-	
–		
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LOGGING RECORD

INTERVAL	TYPE	COMPANY
200.0 – 1065.5	SONL	SCHLUMBERGER
20.0 – 1045.5	GRL	"
20.0 – 1059.0	CNL	"
40.0 – 1066.0	LDT	"
40.0 – 1066.0	PEF	"
40.0 – 480.0	CBLK	"
40.0 – 1063.0	LATL	"

INITIAL WATER RECORD

INTERVAL	STAT LEV	TYPE
61 – -		SUL
136 – -		SUL
295 – -		SAL
926.0 – 945.0		SAL
1042.0 – 1049.9		SAL
–		

CORING RECORD

INTERVAL	LOCATION	NO.	mm
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–			
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–			

GEOLOGICAL CONTACTS		TOP	ELEV.	THICK
	KB / LAKE LEVEL	0		
	DRIFT / LAKE BOTTOM	3.0		
DEVONIAN	PORT LAMBTON			
	KETTLE POINT			
	HAMILTON			
	MARCELLUS			
	DUNDEE	26.3		
	COLUMBUS	-		
	LUCAS	37.6		
	AMHERSTBURG	70.0		
	SYLVANIA	-		
	BOIS BLANC	100.0		
	SPRINGVALE	-		
	ORISKANY	114.5		
SILURIAN	BASS ISLANDS	[illegible]		
	G SHALE	164.2		
	F SHALE	172.0		
	F SALT			
	E CARBONATE	211.6		
	D SALT/EQUIVALENT			
	C SHALE	238.8		
	B MARKER	252.5		
	B EQUIVALENT	257.8		
	B SALT			
	B ANHYDRITE	267.3		
	A2 CARBONATE	272.4		
	A2 SALT			
	A2 ANHYDRITE	291.1		
	A1 CARBONATE	295.2		
	A1 SALT			
	A1 ANHYDRITE			
	GUELPH	305.6		
	ERAMOSA			
	GOAT ISLAND			
	GASPORT/WIARTON			
	DECEW			
	ROCHESTER	463.4		
	IRONDEQUOIT			
	REYNALES/FOSSIL HILL	469.2		
	THOROLD			
	GRIMSBY			
	CABOT HEAD	473.8		
	MANITOULIN	512.8		
	WHIRLPOOL			
ORDOVICIAN	QUEENSTON	522.3		
	BLUE MOUNTAIN - GEORG. BAY	606.6		
	COLLINGWOOD			
	COBOURG	764.0		
	VERULAM	768.2		
	KIRKFIELD	827.0		
	COBOCONK	863.2		
	GULL RIVER	892.5		
	SHADOW LAKE	1001.5		
	CAMBRIAN	1005.2		
	PRECAMBRIAN	1050.0		

GEOLOGY BY T.R. Carter

CTY: Essex	TWP: Mersea	BLK: -	TRAC: 7	LOT: 15	CON: A
WELL NAME: Domego Tiessen #3, Mersea 7-15-A		PERMIT: 6986		INIT CLASS: DEV	
OPERATOR: Domego Resources Ltd.		TARGET: ORD		CUR STATUS: OS-SUSP	

DRILLING DATA		DATES	COORDINATES	SAMPLES
CONTRACTOR: Rawlings Drilling Co. Ltd.		PERMIT: 86-02-21	NORTH: 109.7 m	TOP: 26.0
RIG TYPE: CAB	DEPTHS	SPUD: 86-04-17	SOUTH: - m	BOT: 795.2
CABLE TOP: 1.5	KB ELEV: 178.5	COMPTD: 86-06-12	EAST: 106.7 m	TRAY: 9152- 53
BOT: 795.2	LOGGER: 794.9	OFFCNF: 86-07-12	WEST: - m	
ROTRY TOP: -	DRILLER: 795.2	WRKOVR: -	LAT: 42-01-10.5	
BOT: -	DEEP END: -	ABNDND: -	LONG: 82-32-30	
DRLG FLD: -	PLUG BK: 789.7			

INITIAL GAS RECORD

INTERVAL	FLOW	BHP
756.5 – -	-	-
774.2 – 777.2	-	-
283.4 – 289.6	-	-
–		
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–		

CASING AND TUBING RECORD

DIAM.	WEIGHT	SET AT	HOW SET	RECOV.
273.1	59.5	30.5	SHO	-
219.1	35.7	195.7	PAC	-
177.8	29.8	471.5	CEM	-
114.3	14.1	795.2	CEM	-
60.3	6.0	284.3	HAN	-

COMPLETION DATA

GAS:	$10^3 m^3/d$
OIL:	m^3/d
BHP:	kPa
FORM:	
INTRVL:	m
	m
	m
PERF ☒	OPEN HOLE ☐
REMARKS	

INITIAL OIL RECORD

INTERVAL	FLOW	DENSITY
756.5 – 757.7	-	-
769.6 – 777.2	-	-
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–		
–		

LOGGING RECORD

INTERVAL	TYPE	COMPANY
725.0 – 794.0	GRL	SCH
725.0 – 787.5	CNL	"
725.0 – 794.0	LDT	"
710.0 – 788.0	CMPL	"
725.0 – 794.0	PEF	"
–		
–		

INITIAL WATER RECORD

INTERVAL	STAT. LEV.	TYPE
39.6 – -	-	SUL
319.4 – -	-	SUL
–		
–		
–		
–		

CORING RECORD

INTERVAL	LOCATION	NO.	mm
–			
–			
–			
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–			
–			

GEOLOGICAL CONTACTS		TOP	ELEV.	THICK
	KB / LAKE LEVEL	0		
	DRIFT / LAKE BOTTOM	1.5		
DEVONIAN	PORT LAMBTON			
	KETTLE POINT			
	HAMILTON			
	MARCELLUS			
	DUNDEE			
	COLUMBUS			
	LUCAS	30.8		
	AMHERSTBURG	73		
	SYLVANIA			
	BOIS BLANC	104		
	SPRINGVALE			
	ORISKANY			
SILURIAN	BASS ISLANDS	125.5		
	G SHALE	169		
	F SHALE	173		
	F SALT			
	E CARBONATE	217		
	D SALT/EQUIVALENT			
	C SHALE	241.5		
	B MARKER	257.5		
	B EQUIVALENT	264		
	B SALT			
	B ANHYDRITE	276.5		
	A2 CARBONATE	278.5		
	A2 SALT			
	A2 ANHYDRITE	299.0		
	A1 CARBONATE	301.5		
	A1 SALT			
	A1 ANHYDRITE			
	GUELPH	309		
	ERAMOSA			
	GOAT ISLAND	334		
	GASPORT/WIARTON	362		
	DECEW			
	ROCHESTER	462		
	IRONDEQUOIT			
	REYNALES/FOSSIL HILL	469		
	THOROLD			
	GRIMSBY			
	CABOT HEAD	470		
	MANITOULIN	508		
	WHIRLPOOL			
ORDOVICIAN	QUEENSTON	517.5		
	BLUE MOUNTAIN - GEORG. BAY	603		
	COLLINGWOOD			
	COBOURG	757.0		
	VERULAM	760.8		
	KIRKFIELD			
	COBOCONK			
	GULL RIVER			
	SHADOW LAKE			
	CAMBRIAN			
	PRECAMBRIAN			

GEOLOGY BY: T. R. Carter

CTY:	Essex	TWP:	Mersea	BLK:	-	TRAC:	6	LOT:	16	CON:	B
WELL NAME:	Domego No. 2, Mersea 6-16-B					PERMIT:	6959	INIT CLASS:	NPW		
OPERATOR:	Domego Resources Ltd.					TARGET:	ORD	CUR STATUS:	OP		

DRILLING DATA				DATES		COORDINATES			SAMPLES	
CONTRACTOR:	Rawlings Drilling Co. Ltd.			PERMIT:	85-12-23	NORTH:	563.9	m	TOP:	28.0
RIG TYPE:	CAB	DEPTHS		SPUD:	85-12-27	SOUTH:	-	m	BOT:	793.4
CABLE TOP:	1.1	KB ELEV:	177.2	COMPTD:	86-02-26	EAST:	150.9	m	TRAY:	6864- 65
BOT:	800.1	LOGGER:	801.1	OFFCNF:	87-02-26	WEST:	-	m		
ROTRY TOP:	-	DRILLER:	800.1	WRKOVR:	-	LAT:	42-00-40			
BOT:	-	DEEP END:	-	ABNDND:	-	LONG:	82-32-03			
DRLG FLD:	-	PLUG BK:	799.2							

INITIAL GAS RECORD

INTERVAL	FLOW	SIP
778.8 – 780.3	-	-
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–		
–		
–		

CASING AND TUBING RECORD

DIAM	WEIGHT	SET AT	HOW SET	RECOV
339.7	80.4	28.3	SHO	-
219.1	35.7	180.1	SHO	-
177.8	29.8	464.5	CEM	-
114.3	14.1	800.0	CEM	-
60.3	6.0	772.7	-	-

COMPLETION DATA

GAS:		10³m³/d
OIL:		m³/d
SIP:		kPa
FORM:		
INTRVL:		m
		m
		m
PERF ☒		OPEN HOLE ☐

REMARKS

No Salina picks made - poor samples.

INITIAL OIL RECORD

INTERVAL	FLOW	DENSITY
775.1 – 776.0	-	-
–		
–		
–		
–		

LOGGING RECORD

INTERVAL	TYPE	COMPANY
695.0 – 791.0	GRL	SCH
695.0 – 794.0	CNL	"
695.0 – 800.0	LDT	"
695.0 – 800.0	PEF	"
–		
–		
–		

INITIAL WATER RECORD

INTERVAL	STAT LEV	TYPE
223.1 – 326.1	76.2	SUL
–		
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CORING RECORD

INTERVAL	LOCATION	NO	mm
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	GEOLOGICAL CONTACTS	TOP	ELEV	THICK
	KB / LAKE LEVEL	0		
	DRIFT / LAKE BOTTOM	1.1		
DEVONIAN	PORT LAMBTON			
	KETTLE POINT			
	HAMILTON			
	MARCELLUS			
	DUNDEE	28.0		
	COLUMBUS			
	LUCAS	44.0		
	AMHERSTBURG	74.5		
	SYLVANIA			
	BOIS BLANC	110.0		
	SPRINGVALE			
	ORISKANY			
SILURIAN	BASS ISLANDS	123.5		
	G SHALE	143.5		
	F SHALE			
	F SALT			
	E CARBONATE			
	D SALT/EQUIVALENT			
	C SHALE			
	B MARKER			
	B EQUIVALENT			
	B SALT			
	B ANHYDRITE			
	A2 CARBONATE			
	A2 SALT			
SILURIAN	A2 ANHYDRITE			
	A1 CARBONATE			
	A1 SALT			
	A1 ANHYDRITE			
	GUELPH	314.0		
	ERAMOSA			
	GOAT ISLAND	385.8		
	GASPORT/WIARTON	407.0		
	DECEW			
	ROCHESTER	450.0		
	IRONDEQUOIT			
	REYNALES/FOSSIL HILL			
	THOROLD			
	GRIMSBY			
	CABOT HEAD	462.0		
	MANITOULIN	493.0		
	WHIRLPOOL			
ORDOVICIAN	QUEENSTON	508.0		
	BLUE MOUNTAIN - GEORG. BAY	579		
	COLLINGWOOD			
	COBOURG	760.4		
	VERULAM	763.5		
	KIRKFIELD			
	COBOCONK			
	GULL RIVER			
	SHADOW LAKE			
	CAMBRIAN			
	PRECAMBRIAN			

GEOLOGY BY: T. R. Carter

CTY:	Essex	TWP:	Mersea	BLK:	-	TRAC:	7	LOT:	22	CON:	IX
WELL NAME:	Ram 93, Mersea 7-22-IX					PERMIT:	7003	INIT CLASS:	NPW		
OPERATOR:	Ram Petroleums Ltd.					TARGET:	ORD	CUR STATUS:	OS-SUSP		

DRILLING DATA				DATES		COORDINATES			SAMPLES	
CONTRACTOR:	HLH Drilling Inc.			PERMIT:	86-03-18	NORTH:	200.0	m	TOP:	64
RIG TYPE:	ROT	DEPTHS		SPUD:	86-03-18	SOUTH:	-	m	BOT:	1047
CABLE TOP:	-	KB ELEV:	190.4	COMPTD:	86-03-31	EAST:	195.0	m	TRAY:	9250 - 51
BOT:	-	LOGGER:	1080.3	OFFCNF:	87-03-31	WEST:	-	m		
ROTRY TOP:	1.7	DRILLER:	1079.0	WRKOVR:	-	LAT:	42-07-57			
BOT:	1080.3	DEEP END:	-	ABNDND:	-	LONG:	82-28-50			
DRLG FLD:	-	PLUG BK:	-							

INITIAL GAS RECORD

INTERVAL	FLOW	SIP
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CASING AND TUBING RECORD

DIAM	WEIGHT	SET AT	HOW SET	RECOV
299	62.5	64.5	CEM	-
220	35.7	496.5	CEM	-

COMPLETION DATA

GAS:		10³m³/d
OIL:		m³/d
SIP:		kPa
FORM:		
INTRVL:		m
		m
		m
PERF ☐		OPEN HOLE ☐

REMARKS

Poor samples.

INITIAL OIL RECORD

INTERVAL	FLOW	DENSITY
791.8 – 799.0	-	-
820.0 – 829.0	-	-
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LOGGING RECORD

INTERVAL	TYPE	COMPANY
297.0 –1070.0	GRL	SCH
497.0 –1073.0	CNL	"
497.0 –1079.0	LDT	"
297.0 –1075.0	SONL	"
497.0 –1079.0	PEF	"
497.0 –1080.0	MSFL	"
497.0 –1075.0	LATL	

INITIAL WATER RECORD

INTERVAL	STAT LEV	TYPE
68 – -	-	SUL
365 – -	-	SAL
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CORING RECORD

INTERVAL	LOCATION	NO	mm
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	GEOLOGICAL CONTACTS	TOP	ELEV	THICK
	KB / LAKE LEVEL	0		
	DRIFT / LAKE BOTTOM	2.1		
DEVONIAN	PORT LAMBTON			
	KETTLE POINT			
	HAMILTON			
	MARCELLUS			
	DUNDEE	43.0		
	COLUMBUS			
	LUCAS	85.0		
	AMHERSTBURG	115.5		
	SYLVANIA			
	BOIS BLANC	140.7		
	SPRINGVALE			
	ORISKANY			
SILURIAN	BASS ISLANDS	168.0		
	G SHALE	233.0		
	F SHALE	241.7		
	F SALT			
	E CARBONATE	264.0		
	D SALT/EQUIVALENT			
	C SHALE	311.1		
	B MARKER	326.8		
	B EQUIVALENT	332.0		
	B SALT			
	B ANHYDRITE	341.0		
	A2 CARBONATE	347.1		
	A2 SALT			
SILURIAN	A2 ANHYDRITE	366.5		
	A1 CARBONATE	371.5		
	A1 SALT			
	A1 ANHYDRITE			
	GUELPH	381.0		
	ERAMOSA			
	GOAT ISLAND			
	GASPORT/WIARTON			
	DECEW			
	ROCHESTER	496.2		
	IRONDEQUOIT			
	REYNALES/FOSSIL HILL	502.9		
	THOROLD			
	GRIMSBY			
	CABOT HEAD	506.1		
	MANITOULIN	545.0		
	WHIRLPOOL			
ORDOVICIAN	QUEENSTON	554.3		
	BLUE MOUNTAIN - GEORG. BAY	646.5		
	COLLINGWOOD			
	COBOURG	792.2		
	VERULAM	802.0		
	KIRKFIELD	857.1		
	COBOCONK	899.1		
	GULL RIVER	930.5		
	SHADOW LAKE	1042.6		
	CAMBRIAN	1043.3		
	PRECAMBRIAN			

GEOLOGY BY: T. R. Carter

CTY: Haldimand	TWP: Moulton	BLK: -	TRAC: 3	LOT: 3	CON: IV FC
WELL NAME: Robins #1, Moulton 3-3-IV FC		PERMIT: 6919		INIT CLASS: DEV	
OPERATOR: Glenn Robins		TARGET: CLI		CUR STATUS: GP	

DRILLING DATA

CONTRACTOR:	Blake Montgomery		
RIG TYPE:	CAB	DEPTHS	
CABLE TOP:	0,6	KB ELEV:	177,4
BOT:	202,7	LOGGER:	-
ROTRY TOP:	-	DRILLER:	202,7
BOT:	-	DEEP END:	-
DRLG FLD:	-	PLUG BK:	-

DATES		COORDINATES		SAMPLES	
PERMIT:	85-11-07	NORTH:	- m	TOP	25.9
SPUD:	86-02-12	SOUTH:	106.7 m	BOT	202.7
COMPTD:	86-04-02	EAST:	- m	TRAY	6373
OFFCNF:	86-05-02	WEST:	357.5 m		
WRKOVR:	-	LAT:	42-57-45		
ABNDND:	-	LONG:	79-31-59		

INITIAL GAS RECORD

INTERVAL	FLOW	SIP
145,7 – -	-	-
154,2 – -	-	-
156,7 – 157,9	0,057	-
181,7 – 185,9	0,114	1048
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CASING AND TUBING RECORD

DIAM	WEIGHT	SET AT	HOW SET	RECOV
203,2	35,7	29,9	-	-
127,0	19,3	149,0	BHP	

COMPLETION DATA

GAS: 0,170 $10^3 m^3/d$
OIL: - m^3/d
SIP: 1048 kPa
FORM: Grimsby
INTRVL: 156,7 - 157,9 m
FORM: Whirlpool m
INTRVL: 181,7 - 185,9 m
PERF ☐ OPEN HOLE ☐

LOGGING RECORD

INTERVAL	TYPE	COMPANY
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REMARKS

No picks made within 'Guelph-Lockport' interval.

INITIAL OIL RECORD

INTERVAL	FLOW	DENSITY
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INITIAL WATER RECORD

INTERVAL	STAT LEV	TYPE
25.0 – -	-	FRE
39.0 – -	5.5	SUL
88.4 – -	5.5	BLACK
146.6 – -	45.7	SAL
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CORING RECORD

INTERVAL	LOCATION	NO.	mm
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	GEOLOGICAL CONTACTS	TOP	ELEV	THICK					
	KB / LAKE LEVEL	0.0			SILURIAN	A2 ANHYDRITE			
	DRIFT / LAKE BOTTOM	0.6				A1 CARBONATE			
DEVONIAN	PORT LAMBTON					A1 SALT			
	KETTLE POINT					A1 ANHYDRITE			
	HAMILTON					GUELPH	62.5		
	MARCELLUS					ERAMOSA			
	DUNDEE					GOAT ISLAND			
	COLUMBUS					GASPORT/WARTON			
	LUCAS					DECEW	119.5		
	AMHERSTBURG					ROCHESTER	126.5		
	SYLVANIA					IRONDEQUOIT	143.8		
	BOIS BLANC					REYNALES/FOSSIL HILL	145.8		
	SPRINGVALE					THOROLD	148.0		
	ORISKANY					GRIMSBY	154.5		
SILURIAN	BASS ISLANDS					CABOT HEAD	166.1		
	G SHALE					MANITOULIN			
	F SHALE					WHIRLPOOL	183.0		
	F SALT				ORDOVICIAN	QUEENSTON	187.5		
	E CARBONATE					BLUE MOUNTAIN - GEORG. BAY			
	D SALT/EQUIVALENT					COLLINGWOOD			
	C SHALE	30.2				COBOURG			
	B MARKER					VERULAM			
	B EQUIVALENT					KIRKFIELD			
	B SALT					COBOCONK			
	B ANHYDRITE					GULL RIVER			
	A2 CARBONATE	45.0				SHADOW LAKE			
	A2 SALT					CAMBRIAN			
						PRECAMBRIAN			

GEOLOGY BY: T. R. Carter

CTY: Kent	TWP: Camden	BLK: -	TRAC: 6	LOT: 10	CON: IX
WELL NAME: Twin Star #1, Camden 6-10-IX Gore		PERMIT: 6975		INIT CLASS: NFW	
OPERATOR: Colonial Petroleums Ltd.		TARGET: SAL		CUR STATUS: GP-08	

DRILLING DATA

CONTRACTOR:	Show Drilling Co. Ltd		
RIG TYPE:	CAB	DEPTHS	
CABLE TOP:	1.2	KB ELEV:	188.4
BOT:	547,0	LOGGER:	544.0
ROTRY TOP:	-	DRILLER:	547,0
BOT:		DEEP END:	-
DRLG FLD:	-	PLUG BK:	503,0

DATES		COORDINATES		SAMPLES	
PERMIT:	86-02-06	NORTH:	- m	TOP:	16
SPUD:	86-02-26	SOUTH:	106.7 m	BOT:	547
COMPTD:	86-03-24	EAST:	563.9 m	TRAY:	5885
OFFCNF:	87-03-24	WEST:	- m		
WRKOVR:	-	LAT:	42-37-33		
ABNDND:	-	LONG:	82-06-14		

INITIAL GAS RECORD

INTERVAL	FLOW	SIP
491.0 – 494,5	3.9	4827
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CASING AND TUBING RECORD

DIAM.	WEIGHT	SET AT	HOW SET	RECOV.
274	60.3	16.8	SHO	-
220	35.7	158.7	SHO	158.7
178	29.8	346.4	CEM	283.0
115	14.1	515.4	CEM	-
32	3.4	497.7	-	-

COMPLETION DATA

GAS: 7.85 $10^3 m^3/d$
OIL: 1.0 m^3/d
SIP: - kPa
FORM: A1 Carbonate
INTRVL: 489 - 492 m
m
m
PERF ☒ OPEN HOLE ☐

LOGGING RECORD

INTERVAL	TYPE	COMPANY
0 –	GRL	COMP
0 –	NEUT	"
445.0 –	DENL	"
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REMARKS

INITIAL OIL RECORD

INTERVAL	FLOW	DENSITY
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INITIAL WATER RECORD

INTERVAL	STAT LEV	TYPE
12 – -	-	FRE
183 – -	50	SUL
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CORING RECORD

INTERVAL	LOCATION	NO.	mm
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	GEOLOGICAL CONTACTS	TOP	ELEV	THICK					
	KB / LAKE LEVEL	0			SILURIAN	A2 ANHYDRITE	486.2		
	DRIFT / LAKE BOTTOM	1.2				A1 CARBONATE	488.2		
DEVONIAN	PORT LAMBTON					A1 SALT			
	KETTLE POINT	10.5				A1 ANHYDRITE	516.8		
	HAMILTON	85.5				GUELPH	522.0		
	MARCELLUS					ERAMOSA			
	DUNDEE	157.0				GOAT ISLAND	533.9		
	COLUMBUS	177.0				GASPORT/WARTON			
	LUCAS	184.5				DECEW			
	AMHERSTBURG	247.0				ROCHESTER			
	SYLVANIA					IRONDEQUOIT			
	BOIS BLANC	289				REYNALES/FOSSIL HILL			
	SPRINGVALE					THOROLD			
	ORISKANY					GRIMSBY			
SILURIAN	BASS ISLANDS	299.0				CABOT HEAD			
	G SHALE	342.2				MANITOULIN			
	F SHALE	348.5				WHIRLPOOL			
	F SALT				ORDOVICIAN	QUEENSTON			
	E CARBONATE	392.3				BLUE MOUNTAIN - GEORG. BAY			
	D SALT/EQUIVALENT					COLLINGWOOD			
	C SHALE	419.8				COBOURG			
	B MARKER	430.1				VERULAM			
	B EQUIVALENT	435.7				KIRKFIELD			
	B SALT					COBOCONK			
	B ANHYDRITE	446.3				GULL RIVER			
	A2 CARBONATE	449.4				SHADOW LAKE			
	A2 SALT					CAMBRIAN			
						PRECAMBRIAN			

GEOLOGY BY: T. R. Carter

CTY:	Kent	TWP:	Camden	BLK:	-	TRAC:	6	LOT:	10
CON:	X								
WELL NAME	Twin Star #2, Camden 6-10-X Gore			PERMIT	7013	INIT CLASS:	NFW		
OPERATOR:	Colonial Petroleums Limited			TARGET	SAL	CUR STATUS:	GP		

DRILLING DATA				DATES		COORDINATES			SAMPLES	
CONTRACTOR:	Shaw Drilling Co. Ltd.			PERMIT	86-04-07	NORTH:	-	m	TOP	15
RIG TYPE:	CAB	DEPTHS		SPUD	86-04-07	SOUTH	106.7	m	BOT	548
CABLE TOP:	1.2	KB ELEV:	189.7	COMPTD	86-04-30	EAST	563.9	m	TRAY	8422
BOT:	548	LOGGER:	548.0	OFFCNF	87-04-30	WEST	-	m		
ROTRY TOP:	-	DRILLER:	548.0	WRKOVR	-	LAT	42-37-31			
BOT:	-	DEEP END:	-	ABNDND	-	LONG	82-05-15			
DRLG FLD:	-	PLUG BK:	500.7							

INITIAL GAS RECORD

INTERVAL	FLOW	SIP
446 – 451	3.35	-
486 – 488	5.76	5033
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CASING AND TUBING RECORD

DIAM	WEIGHT	SET AT	HOW SET	RECOV
274	60.3	15.5	SHO	-
220	35.7	158.8	SHO	158.8
178	29.8	358.9	CEM	273.9
115	14.1	511.8	CEM	-
60	7.0	446.4	-	-

COMPLETION DATA

GAS	17.56	10³m³/d
OIL:	-	m³/d
SIP:	5033	kPa
FORM:	A2 Carbonate	
INTRVL:	448.0 - 455.5	m
	487.0 - 488.0	m
		m
PERF ☒	OPEN HOLE ☐	

REMARKS

INITIAL OIL RECORD

INTERVAL	FLOW	DENSITY
499 – -	-	-
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LOGGING RECORD

INTERVAL	TYPE	COMPANY
0 – 548.0	GRL	COMP
0 – 548.0	NEUT	"
425.0 – 548.0	DENL	"
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INITIAL WATER RECORD

INTERVAL	STAT LEV	TYPE
181 – -	45	SUL
499 – -	-	SAL
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CORING RECORD

INTERVAL	LOCATION	NO	mm
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GEOLOGICAL CONTACTS		TOP	ELEV	THICK
	KB / LAKE LEVEL	0		
	DRIFT / LAKE BOTTOM	1.2		
DEVONIAN	PORT LAMBTON			
	KETTLE POINT	12.2		
	HAMILTON	87.8		
	MARCELLUS			
	DUNDEE	158.3		
	COLUMBUS	181.0		
	LUCAS	185.7		
	AMHERSTBURG	241.0		
	SYLVANIA			
	BOIS BLANC	283.0		
	SPRINGVALE			
	ORISKANY	293.5		
SILURIAN	BASS ISLANDS	294.0		
	G SHALE	340.4		
	F SHALE	347.0		
	F SALT			
	E CARBONATE	391.3		
	D SALT/EQUIVALENT			
	C SHALE	418.6		
	B MARKER	428.7		
	B EQUIVALENT	435.0		
	B SALT			
	B ANHYDRITE	445.1		
	A2 CARBONATE	448.0		
	A2 SALT			
SILURIAN	A2 ANHYDRITE	484.0		
	A1 CARBONATE	486.2		
	A1 SALT			
	A1 ANHYDRITE	512.0		
	GUELPH	515.3		
	ERAMOSA			
	GOAT ISLAND	528.9		
	GASPORT/WIARTON			
	DECEW			
	ROCHESTER			
	IRONDEQUOIT			
	REYNALES/FOSSIL HILL			
	THOROLD			
	GRIMSBY			
	CABOT HEAD			
	MANITOULIN			
	WHIRLPOOL			
ORDOVICIAN	QUEENSTON			
	BLUE MOUNTAIN - GEORG. BAY			
	COLLINGWOOD			
	COBOURG			
	VERULAM			
	KIRKFIELD			
	COBOCONK			
	GULL RIVER			
	SHADOW LAKE			
	CAMBRIAN			
	PRECAMBRIAN			

GEOLOGY BY: T. R. Carter

CTY:	Kent	TWP:	Camden	BLK:	-	TRAC:	2	LOT:	9
CON:	IX								
WELL NAME	Twin Star #3, Camden 2-9-IX Gore			PERMIT	7039	INIT CLASS:	NFW		
OPERATOR	Colonial Petroleums Ltd.			TARGET	SAL	CUR STATUS:	GP		

DRILLING DATA				DATES		COORDINATES			SAMPLES	
CONTRACTOR	Circle A Drilling Inc.			PERMIT	86-08-19	NORTH:	-	m	TOP	15.2
RIG TYPE	CAB	DEPTHS		SPUD	86-08-20	SOUTH:	152.4	m	BOT	532.2
CABLE TOP	427.0	KB ELEV:	188.3	COMPTD	86-09-16	EAST:	-	m	TRAY	7887
BOT	533.4	LOGGER:	532.2	OFFCNF	87-09-16	WEST	106.7	m		
ROTRY TOP	0.0	DRILLER:	533.4	WRKOVR	-	LAT	42-37-11			
BOT	427.0	DEEP END:	-	ABNDND	-	LONG:	82-05-46			
DRLG FLD	-	PLUG BK:	499.0							

INITIAL GAS RECORD

INTERVAL	FLOW	SIP
447 – 452	0.89	-
484 – 487	5.89	4709
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CASING AND TUBING RECORD

DIAM	WEIGHT	SET AT	HOW SET	RECOV.
245	48.1	15.2	CEM	0
178	29.8	350.0	CEM	282.0
115	14.1	512.2	CEM	0
60	7.0	440.7	-	0

COMPLETION DATA

GAS:	8.50	10³m³/d
OIL:	-	m³/d
SIP:	4709	kPa
FORM:	A2 Carbonate/A1 C	
INTRVL:	447.0 - 484.5	m
		m
		m
PERF ☒	OPEN HOLE ☐	

REMARKS

INITIAL OIL RECORD

INTERVAL	FLOW	DENSITY
489 – 490	-	-
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LOGGING RECORD

INTERVAL	TYPE	COMPANY
0.0 – 530.7	GRL	COMP
0.0 – 532.2	NEUT	"
425.0 – 532.2	DENL	"
410.0 – 499.0	CMPL	"
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INITIAL WATER RECORD

INTERVAL	STAT LEV	TYPE
10 – -	-	FRE
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CORING RECORD

INTERVAL	LOCATION	NO.	mm
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GEOLOGICAL CONTACTS		TOP	ELEV	THICK
	KB / LAKE LEVEL	0.0		
	DRIFT / LAKE BOTTOM	1.0		
DEVONIAN	PORT LAMBTON			
	KETTLE POINT	11.5		
	HAMILTON	65.4		
	MARCELLUS			
	DUNDEE	138.0		
	COLUMBUS	158.5		
	LUCAS	178.0		
	AMHERSTBURG	222.5		
	SYLVANIA			
	BOIS BLANC	277.4		
	SPRINGVALE			
	ORISKANY	298.8		
SILURIAN	BASS ISLANDS	309.0		
	G SHALE	340.0		
	F SHALE	347.9		
	F SALT			
	E CARBONATE	390.3		
	D SALT/EQUIVALENT			
	C SHALE	418.7		
	B MARKER	428.2		
	B EQUIVALENT	434.0		
	B SALT			
	B ANHYDRITE			
	A2 CARBONATE	446.7		
	A2 SALT			
SILURIAN	A2 ANHYDRITE	481.0		
	A1 CARBONATE	483.1		
	A1 SALT			
	A1 ANHYDRITE			
	GUELPH	498.0		
	ERAMOSA			
	GOAT ISLAND			
	GASPORT/WIARTON			
	DECEW			
	ROCHESTER			
	IRONDEQUOIT			
	REYNALES/FOSSIL HILL			
	THOROLD			
	GRIMSBY			
	CABOT HEAD			
	MANITOULIN			
	WHIRLPOOL			
ORDOVICIAN	QUEENSTON			
	BLUE MOUNTAIN - GEORG. BAY			
	COLLINGWOOD			
	COBOURG			
	VERULAM			
	KIRKFIELD			
	COBOCONK			
	GULL RIVER			
	SHADOW LAKE			
	CAMBRIAN			
	PRECAMBRIAN			

GEOLOGY BY T. R. Carter

CTY: Kent	TWP: Chatham	BLK: –	TRAC: 4	LOT: 10	CON: XIII
WELL NAME: Francisco et al #4, Chatham 4-10-XIII		PERMIT: 7017		INIT CLASS: DEV	
OPERATOR: Francisco Petroleum Enterprises Inc.		TARGET: SAL		CUR STATUS: OP-GS	

DRILLING DATA				DATES	COORDINATES		SAMPLES
CONTRACTOR:	Rawlings Drilling Co.			PERMIT: 86-05-21	NORTH: –	m	TOP: 20.0
RIG TYPE:	CAB	DEPTHS		SPUD: 86-07-03	SOUTH: 442.0	m	BOT: 499.9
CABLE TOP:	1.5	KB ELEV:	180.6	COMPTD: 86-08-27	EAST: –	m	TRAY: 6942
BOT:	499.9	LOGGER:	497.7	OFFCNF: 86-09-26	WEST: 107.0	m	
ROTRY TOP:	–	DRILLER:	499.9	WRKOVR: –	LAT: 42-33-42.5		
BOT:	–	DEEP END:	–	ABNDND: –	LONG: 82-16-45		
DRLG FLD:	–	PLUG BK:					

INITIAL GAS RECORD

INTERVAL	FLOW	SIP
494 – –	–	–
453.5 – 456.0	–	–
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CASING AND TUBING RECORD

DIAM.	WEIGHT	SET AT	HOW SET	RECOV.
273	19	21	SHO	–
219	10.9	141.1	SHO	–
178	9.1	358.4	PAC	348.7
114	4.3	499.8	CEM	–

COMPLETION DATA

GAS:	–	$10^3 m^3/d$
OIL:	4.0	m^3/d
SIP:	–	kPa
FORM:	A1 Carbonate	
INTRVL:	490.7 - 495.6	m
		m
		m

PERF ☒ OPEN HOLE ☐

INITIAL OIL RECORD

INTERVAL	FLOW	DENSITY
494 – –	15.9	–
–		
–		
–		
–		

LOGGING RECORD

INTERVAL	TYPE	COMPANY
353.6 – 495.6	GRL	COMP
353.6 – 497.7	NEUT	"
424.0 – 497.1	DENL	"
–		
–		
–		
–		

REMARKS

Quartz sand in Lucas 176.0 to 192.0.

INITIAL WATER RECORD

INTERVAL	STAT LEV	TYPE
21 – –	–	FRE
158.5 – –	–	SUL
462 – 464	–	SAL
–		
–		
–		

CORING RECORD

INTERVAL	LOCATION	NO.	mm
–			
–			
–			
–			
–			

	GEOLOGICAL CONTACTS	TOP	ELEV.	THICK
	KB / LAKE LEVEL	0		
	DRIFT / LAKE BOTTOM	1.5		
DEVONIAN	PORT LAMBTON			
	KETTLE POINT	20.0		
	HAMILTON	87.0		
	MARCELLUS			
	DUNDEE	137.0		
	COLUMBUS			
	LUCAS	162.5		
	AMHERSTBURG	212.0		
	SYLVANIA			
	BOIS BLANC	276.0		
	SPRINGVALE			
	ORISKANY			
SILURIAN	BASS ISLANDS	300.5		
	G SHALE	338.0		
	F SHALE	366.5		
	F SALT			
	E CARBONATE	387.1		
	D SALT/EQUIVALENT			
	C SHALE	417.0		
	B MARKER	431.0		
	B EQUIVALENT	437.1		
	B SALT			
	B ANHYDRITE	444.4		
	A2 CARBONATE	450.5		
	A2 SALT			

SILURIAN	A2 ANHYDRITE	488.3		
	A1 CARBONATE	491.0		
	A1 SALT			
	A1 ANHYDRITE			
	GUELPH			
	ERAMOSA			
	GOAT ISLAND			
	GASPORT/WIARTON			
	DECEW			
	ROCHESTER			
	IRONDEQUOIT			
	REYNALES/FOSSIL HILL			
	THOROLD			
	GRIMSBY			
	CABOT HEAD			
	MANITOULIN			
	WHIRLPOOL			
ORDOVICIAN	QUEENSTON			
	BLUE MOUNTAIN - GEORG. BAY			
	COLLINGWOOD			
	COBOURG			
	VERULAM			
	KIRKFIELD			
	COBOCONK			
	GULL RIVER			
	SHADOW LAKE			
	CAMBRIAN			
	PRECAMBRIAN			

GEOLOGY BY: T. R. Carter

CTY: Kent	TWP: Chatham	BLK: –	TRAC: 1	LOT: 3	CON: XV
WELL NAME: Everdeep et al No. 1, Chatham 1-3-XV		PERMIT: 7042		INIT CLASS: NFW	
OPERATOR: Paladin Petroleum Corporation		TARGET: SAL		CUR STATUS: DH-ABD	

DRILLING DATA				DATES	COORDINATES		SAMPLES
CONTRACTOR:	Rawlings Drilling Co.			PERMIT: 86-09-03	NORTH: –	m	TOP: 21.3
RIG TYPE:	CAB	DEPTHS		SPUD: 86-09-01	SOUTH: 108.2	m	BOT: 596.2
CABLE TOP:	1.2	KB ELEV:	177.4	COMPTD: 86-10-07	EAST: –	m	TRAY: 8663
BOT:	596.0	LOGGER:	596.0	OFFCNF: 87-10-07	WEST: 150.9	m	
ROTRY TOP:	–	DRILLER:	596.0	WRKOVR: –	LAT: 42-33-20		
BOT:	–	DEEP END:	–	ABNDND: 86-10-10	LONG: 82-20-41		
DRLG FLD:	–	PLUG BK:					

INITIAL GAS RECORD

INTERVAL	FLOW	SIP
27.4 – –	–	–
–		
–		
–		
–		
–		

CASING AND TUBING RECORD

DIAM.	WEIGHT	SET AT	HOW SET	RECOV.
273	60.3	22.9	SHO	22.9
219	36	147.2	SHO	147.2
178	30	350.6	PAC	349.3

COMPLETION DATA

GAS:		$10^3 m^3/d$
OIL:		m^3/d
SIP:		kPa
FORM:		
INTRVL:		m
		m
		m

PERF ☐ OPEN HOLE ☐

INITIAL OIL RECORD

INTERVAL	FLOW	DENSITY
–		
–		
–		
–		
–		

LOGGING RECORD

INTERVAL	TYPE	COMPANY
11.0 – 585.5	GRL	SCH
80.0 – 590.5	CNL	"
353.0 – 595.0	LDT	"
360.0 – 591.0	LATL	"
360.0 – 595.0	MSFL	"
353.0 – 395.0	PEF	"
360.0 – 595.0	DIPM	"

REMARKS

INITIAL WATER RECORD

INTERVAL	STAT LEV	TYPE
27.0 – –	3.3	FRE
183.0 – –	54.9	SUL
583.0 – –	216.0	SAL
–		
–		
–		

CORING RECORD

INTERVAL	LOCATION	NO.	mm
–			
–			
–			
–			
–			

	GEOLOGICAL CONTACTS	TOP	ELEV.	THICK
	KB / LAKE LEVEL	0.0		
	DRIFT / LAKE BOTTOM	1.2		
DEVONIAN	PORT LAMBTON			
	KETTLE POINT	15.0		
	HAMILTON	90.4		
	MARCELLUS			
	DUNDEE	149.3		
	COLUMBUS			
	LUCAS	167.0		
	AMHERSTBURG	239.3		
	SYLVANIA			
	BOIS BLANC	277.0		
	SPRINGVALE	302.0		
	ORISKANY			
SILURIAN	BASS ISLANDS	309.7		
	G SHALE	348.9		
	F SHALE	354.9		
	F SALT			
	E CARBONATE	400.0		
	D SALT/EQUIVALENT			
	C SHALE	427.0		
	B MARKER	443.4		
	B EQUIVALENT	449.5		
	B SALT			
	B ANHYDRITE	460.8		
	A2 CARBONATE	464.0		
	A2 SALT			

SILURIAN	A2 ANHYDRITE	500.9		
	A1 CARBONATE	503.5		
	A1 SALT			
	A1 ANHYDRITE	533.8		
	GUELPH	536.5		
	ERAMOSA			
	GOAT ISLAND	547.5		
	GASPORT/WIARTON	567.0		
	DECEW			
	ROCHESTER	585.5		
	IRONDEQUOIT			
	REYNALES/FOSSIL HILL	593.0		
	THOROLD			
	GRIMSBY			
	CABOT HEAD	595.8		
	MANITOULIN			
	WHIRLPOOL			
ORDOVICIAN	QUEENSTON			
	BLUE MOUNTAIN - GEORG. BAY			
	COLLINGWOOD			
	COBOURG			
	VERULAM			
	KIRKFIELD			
	COBOCONK			
	GULL RIVER			
	SHADOW LAKE			
	CAMBRIAN			
	PRECAMBRIAN			

GEOLOGY BY: T. R. Carter

CTY: Kent	TWP: Dover	BLK: -	TRAC: 7	LOT: 24	CON: XV EBR
WELL NAME: Everdeen et al No. 2, Dover 7-24-XV EBR		PERMIT: 7052		INIT CLASS: NFW	
OPERATOR: Paladin Petroleum Corporation		TARGET: SAL		CUR STATUS: OS	

DRILLING DATA				DATES	COORDINATES	SAMPLES
CONTRACTOR:	Rawlings Drilling Co.			PERMIT: 86-10-16	NORTH: 167.6 m	TOP: 24.4
RIG TYPE:	CAB	DEPTHS		SPUD: 86-10-20	SOUTH: - m	BOT: 580.3
CABLE TOP:	1.5	KB ELEV:	178.0	COMPTD: 86-11-20	EAST: 150.9 m	TRAY: 5904
BOT:	580.3	LOGGER:	578.4	OFFCNF: 87-11-20	WEST: - m	
ROTRY TOP:	-	DRILLER:	580.3	WRKOVR: -	LAT: 42-32-05	
BOT:	-	DEEP END:	-	ABNDND: -	LONG: 82-21-19.5	
DRLG FLD:	-	PLUG BK:	520.0			

INITIAL GAS RECORD

INTERVAL	FLOW	BP
30.5 — -	-	-
—		
—		
—		
—		
—		

CASING AND TUBING RECORD

DIAM	WEIGHT	SET AT	HOW SET	RECOV
273	59.5	27.3	SHO	-
219	47.6	132.0	SHO	-
178	36	347.5	PAC	338.4
114	14.1	528.9	CEM	-
60	6.7	507.0	HAN	-

COMPLETION DATA

GAS:	10³m³/d
OIL:	m³/d
BP: 5171	kPa
FORM:	
INTRVL:	m
	m
	m
PERF ☒	OPEN HOLE ☐

REMARKS

INITIAL OIL RECORD

INTERVAL	FLOW	DENSITY
498.7 — 503.8	-	-
—		
—		
—		
—		

LOGGING RECORD

INTERVAL	TYPE	COMPANY
30.0 — 568.5	GRL	SCH
346.0 — 571.0	CNL	"
346.0 — 578.0	LDT	"
346.0 — 578.0	PEF	"
346.0 — 573.5	LATL	"
346.0 — 578.0	MSFL	"
340.0 — 578.0	NCRS	"

INITIAL WATER RECORD

INTERVAL	STAT LEV	TYPE
172.2 — -	45.7	SUL
562 — -	480	SAL
—		
—		
—		

CORING RECORD

INTERVAL	LOCATION	NO.	mm
—			
—			
—			
—			
—			

	GEOLOGICAL CONTACTS	TOP	ELEV	THICK			
	KB / LAKE LEVEL	0.0			SILURIAN	A2 ANHYDRITE	487.0
	DRIFT / LAKE BOTTOM	1.5				A1 CARBONATE	490.2
DEVONIAN	PORT LAMBTON					A1 SALT	
	KETTLE POINT	15.0				A1 ANHYDRITE	519.1
	HAMILTON	73.8				GUELPH	522.0
	MARCELLUS					ERAMOSA	
	DUNDEE	132.5				GOAT ISLAND	538.0
	COLUMBUS					GASPORT/WHARTON	554.0
	LUCAS	153.5				DECEW	
	AMHERSTBURG	196.0				ROCHESTER	572.6
	SYLVANIA					IRONDEQUOIT	
	BOIS BLANC	256.0				REYNALES/FOSSIL HILL	
	SPRINGVALE					THOROLD	
	ORISKANY					GRIMSBY	
SILURIAN	BASS ISLANDS	279.2				CABOT HEAD	
	G SHALE	337.3				MANITOULIN	
	F SHALE	343.7				WHIRLPOOL	
	F SALT				ORDOVICIAN	QUEENSTON	
	E CARBONATE	389.2				BLUE MOUNTAIN - GEORG. BAY	
	D SALT/EQUIVALENT					COLLINGWOOD	
	C SHALE	417.0				COBOURG	
	B MARKER	428.4				VERULAM	
	B EQUIVALENT	433.8				KIRKFIELD	
	B SALT					COBOCONK	
	B ANHYDRITE	443.3				GULL RIVER	
	A2 CARBONATE	449.5				SHADOW LAKE	
	A2 SALT					CAMBRIAN	
						PRECAMBRIAN	

GEOLOGY BY T. R. Carter

CTY: Kent	TWP: Howard	BLK: -	TRAC: 4	LOT: 92	CON: STR
WELL NAME: PPC et al #8, Howard 4-92-STR		PERMIT: 6996		INIT CLASS: NFW	
OPERATOR: Paladin Petroleum Corporation		TARGET: SAL		CUR STATUS: DH-ABD	

DRILLING DATA				DATES	COORDINATES	SAMPLES
CONTRACTOR:	Underwater Gas Developers Ltd.			PERMIT: 86-03-10	NORTH: - m	TOP: 162
RIG TYPE:	ROT	DEPTHS		SPUD: 86-03-04	SOUTH: 898.5 m	BOT: 648
CABLE TOP:	-	KB ELEV:	198.8	COMPTD: 86-03-09	EAST: - m	TRAY: 3282
BOT:	-	LOGGER:	649.5	OFFCNF: 87-03-09	WEST: 120.4 m	
ROTRY TOP:	3.1	DRILLER:	650.0	WRKOVR: -	LAT: 42-23-08	
BOT:	650.0	DEEP END:	-	ABNDND: 86-03-10	LONG: 81-50-13	
DRLG FLD:	-	PLUG BK:	-			

INITIAL GAS RECORD

INTERVAL	FLOW	BP
—		
—		
—		
—		
—		
—		

CASING AND TUBING RECORD

DIAM	WEIGHT	SET AT	HOW SET	RECOV
244	54	160	CEM	-
178	36	390	CEM	262

COMPLETION DATA

GAS:	10³m³/d
OIL:	m³/d
BP:	kPa
FORM:	
INTRVL:	m
	m
	m
PERF ☐	OPEN HOLE ☐

REMARKS

INITIAL OIL RECORD

INTERVAL	FLOW	DENSITY
—		
—		
—		
—		
—		

LOGGING RECORD

INTERVAL	TYPE	COMPANY
30.0 — 639.5	GRL	SCH
30.0 — 642.0	CNL	"
388.0 — 648.5	LDT	"
388.0 — 648.5	PEF	"
250.0 — 648.5	SONL	"
—		
—		

INITIAL WATER RECORD

INTERVAL	STAT LEV	TYPE
38.0 — 52.0	-	FRE
195.0 — 238.0	-	SUL
359.0 — -	-	SUL
—		
—		

CORING RECORD

INTERVAL	LOCATION	NO.	mm
—			
—			
—			
—			
—			

	GEOLOGICAL CONTACTS	TOP	ELEV	THICK			
	KB / LAKE LEVEL	0			SILURIAN	A2 ANHYDRITE	
	DRIFT / LAKE BOTTOM	3.1				A1 CARBONATE	
DEVONIAN	PORT LAMBTON					A1 SALT	
	KETTLE POINT	44.2				A1 ANHYDRITE	
	HAMILTON	52.2				GUELPH	555.8
	MARCELLUS					ERAMOSA	
	DUNDEE	155.3				GOAT ISLAND	567.7
	COLUMBUS					GASPORT/WHARTON	621.2
	LUCAS	206.5				DECEW	
	AMHERSTBURG	219.0				ROCHESTER	629.6
	SYLVANIA					IRONDEQUOIT	
	BOIS BLANC	303.0				REYNALES/FOSSIL HILL	
	SPRINGVALE					THOROLD	
	ORISKANY					GRIMSBY	
SILURIAN	BASS ISLANDS	318.0				CABOT HEAD	
	G SHALE	359.0				MANITOULIN	
	F SHALE	366.2				WHIRLPOOL	
	F SALT				ORDOVICIAN	QUEENSTON	
	E CARBONATE	408.0				BLUE MOUNTAIN - GEORG. BAY	
	D SALT/EQUIVALENT					COLLINGWOOD	
	C SHALE	432.1				COBOURG	
	B MARKER	445.8				VERULAM	
	B EQUIVALENT	451.3				KIRKFIELD	
	B SALT	456.5				COBOCONK	
	B ANHYDRITE					GULL RIVER	
	A2 CARBONATE	511.0				SHADOW LAKE	
	A2 SALT					CAMBRIAN	
						PRECAMBRIAN	

GEOLOGY BY T. R. Carter

CTY:	Kent	TWP:	Raleigh	BLK:	-	TRAC:	8	LOT: 19	CON: VIII
WELL NAME	Cameron Doyles 2, Raleigh 8-19-VIII			PERMIT:	7067	INIT CLASS:	DEV		
OPERATOR:	Cameron Petroleums Limited			TARGET:	SAL	CUR STATUS:	GP		

DRILLING DATA				DATES		COORDINATES		SAMPLES
CONTRACTOR:	James Newport			PERMIT:	86-11-07	NORTH:	144.8 m	TOP: 28.0 m
RIG TYPE:	Cable	DEPTHS		SPUD:	86-11-07	SOUTH:	- m	BOT: 496.5 m
CABLE TOP:	1.3 m	KB ELEV:	183.0	COMPTD:	86-12-09	EAST:	437.4 m	TRAY: 5725
BOT:	496.5 m	LOGGER:	-	OFFCNF:	87-01-08	WEST:	- m	
ROTRY TOP:	-	DRILLER:	496.5 m	WRKOVR:	-	LAT:	42-20-21	
BOT:	-	DEEP END:	-	ABNDND:	-	LONG:	82-09-52	
DRLG FLD:	-	PLUG BK:	-					

INITIAL GAS RECORD

INTERVAL			FLOW	SIP
28	—	- 31	-	
42	—	-		
486	—	487	1.216	3344
487	—	496	1.896	4344
	—			
	—			

CASING AND TUBING RECORD

DIAM	WEIGHT	SET AT	HOW SET	RECOV
273	60.3	30.6	SHO	0
219	-	98.1	SHO	98.1
177.8	-	306.2	CEM	-

COMPLETION DATA

GAS: 1,896 10³m³/d
OIL: m³/d
SIP: 4344 kPa
FORM: Guelph
INTRVL: 486.0 m
496.5 m
m
PERF ☐ OPEN HOLE ☒

REMARKS

INITIAL OIL RECORD

INTERVAL			FLOW	DENSITY
498.5	—	-		
	—			
	—			
	—			
	—			

LOGGING RECORD

INTERVAL	TYPE	COMPANY
—		
—		
—		
—		
—		
—		

INITIAL WATER RECORD

INTERVAL			STAT LEV	TYPE
28	—			FR
144	—	148		SUL
496.5	—	-		SAL
	—			
	—			
	—			

CORING RECORD

INTERVAL	LOCATION	NO.	mm
—			
—			
—			
—			
—			

GEOLOGICAL CONTACTS		TOP	ELEV	THICK			TOP	ELEV	THICK
	KB / LAKE LEVEL	0			SILURIAN	A2 ANHYDRITE	476.0		
	DRIFT / LAKE BOTTOM	1.3				A1 CARBONATE			
DEVONIAN	PORT LAMBTON	-				A1 SALT			
	KETTLE POINT	34.0				A1 ANHYDRITE			
	HAMILTON	44.0				GUELPH	483.0		
	MARCELLUS	-				ERAMOSA			
	DUNDEE	95.4				GOAT ISLAND			
	COLUMBUS	-				GASPORT/WHARTON			
	LUCAS	136.5				DECEW			
	AMHERSTBURG	161.0				ROCHESTER			
	SYLVANIA	-				IRONDEQUOIT			
	BOIS BLANC	205.0				REYNALES/FOSSIL HILL			
	SPRINGVALE	-				THOROLD			
	ORISKANY	-				GRIMSBY			
SILURIAN	BASS ISLANDS	209.0				CABOT HEAD			
	G SHALE	333				MANITOULIN			
	F SHALE	340				WHIRLPOOL			
	F SALT	-			ORDOVICIAN	QUEENSTON			
	E CARBONATE	383.0				BLUE MOUNTAIN - GEORG BAY			
	D SALT/EQUIVALENT	-				COLLINGWOOD			
	C SHALE	406.0				COBOURG			
	B MARKER	427.0				VERULAM			
	B EQUIVALENT	435.0				KIRKFIELD			
	B SALT	-				COBOCONK			
	B ANHYDRITE	445.0				GULL RIVER			
	A2 CARBONATE	448.0				SHADOW LAKE			
	A2 SALT	-			CAMBRIAN				
					PRECAMBRIAN				

GEOLOGY BY: T.R. Carter

CTY:	Kent	TWP:	Raleigh	BLK:	-	TRAC:	8	LOT: 2	CON: I
WELL NAME	Crow #4, Raleigh 8-2-I			PERMIT:	6910	INIT CLASS:	NFW		
OPERATOR:	Marvan II			TARGET:	ORD	CUR STATUS:	OSGS-ABD		

DRILLING DATA				DATES		COORDINATES		SAMPLES
CONTRACTOR:	C. G. Stevenson			PERMIT:	85-10-30	NORTH:	225.6 m	TOP: 24.0
RIG TYPE:	CAB	DEPTHS		SPUD:	85-10-31	SOUTH:	- m	BOT: 1103.4
CABLE TOP:	1.2	KB ELEV:	176.2	COMPTD:	86-02-08	EAST:	411.5 m	TRAY: 9138-39
BOT:	1103.4	LOGGER:	-	OFFCNF:	87-02-08	WEST:	- m	
ROTRY TOP:	-	DRILLER:	-	WRKOVR:	-	LAT:	42-20-44	
BOT:	-	DEEP END:	-	ABNDND:	86-02-28	LONG:	82-20-28	
DRLG FLD:	-	PLUG BK:	-					

INITIAL GAS RECORD

INTERVAL			FLOW	SIP
1047.3	—	-	-	-
	—			
	—			
	—			
	—			
	—			

CASING AND TUBING RECORD

DIAM.	WEIGHT	SET AT	HOW SET	RECOV.
338	-	22.3	SHO	0
270	-	63.7	SHO	63.7
219	-	350.5	PAC	363.8
178	-	582.8	CEM	460.9

COMPLETION DATA

GAS: 10³m³/d
OIL: m³/d
SIP: kPa
FORM:
INTRVL: m
m
m
PERF ☐ OPEN HOLE ☐

REMARKS

INITIAL OIL RECORD

INTERVAL			FLOW	DENSITY
36.6	—	39.6	-	-
1047.3	—	-	-	-
	—			
	—			
	—			

LOGGING RECORD

INTERVAL	TYPE	COMPANY
—		
—		
—		
—		
—		
—		

INITIAL WATER RECORD

INTERVAL			STAT LEV	TYPE
109.7	—	-	42.7	SAL
494.4	—	496.8	76.2	SAL
1051.9	—	-	-	SAL
1075.6	—	1078.1	-	SAL
	—			
	—			

CORING RECORD

INTERVAL	LOCATION	NO.	mm
—			
—			
—			
—			
—			

GEOLOGICAL CONTACTS		TOP	ELEV	THICK			TOP	ELEV	THICK
	KB / LAKE LEVEL	0			SILURIAN	A2 ANHYDRITE	477.0		
	DRIFT / LAKE BOTTOM	1.2				A1 CARBONATE	481.2		
DEVONIAN	PORT LAMBTON					A1 SALT			
	KETTLE POINT					A1 ANHYDRITE			
	HAMILTON	22.9				GUELPH	491.5		
	MARCELLUS					ERAMOSA			
	DUNDEE	61.0				GOAT ISLAND	510.0		
	COLUMBUS	103.5				GASPORT/WHARTON	558.5		
	LUCAS	112.7				DECEW			
	AMHERSTBURG	281.0				ROCHESTER	571.5		
	SYLVANIA					IRONDEQUOIT			
	BOIS BLANC	200.0				REYNALES/FOSSIL HILL			
	SPRINGVALE					THOROLD			
	ORISKANY					GRIMSBY			
SILURIAN	BASS ISLANDS	236.5				CABOT HEAD	581.0		
	G SHALE	291.0				MANITOULIN	618.5		
	F SHALE	299.0				WHIRLPOOL			
	F SALT				ORDOVICIAN	QUEENSTON	633.5		
	E CARBONATE	365.5				BLUE MOUNTAIN - GEORG BAY	715.0		
	D SALT/EQUIVALENT					COLLINGWOOD			
	C SHALE	375.0				COBOURG	855.5		
	B MARKER	389.5				VERULAM			
	B EQUIVALENT	395.5				KIRKFIELD			
	B SALT	403.0				COBOCONK	978.5		
	B ANHYDRITE	446.0				GULL RIVER			
	A2 CARBONATE	462.0				SHADOW LAKE			
	A2 SALT				CAMBRIAN				
					PRECAMBRIAN				

GEOLOGY BY: T. R. Carter

CTY: Kent	TWP: Romney	BLK: -	TRAC: 7	LOT: 17	CON: III
WELL NAME: Cons et al 34010, Romney 7-17-III		PERMIT: 6970		INIT CLASS: NFW	
OPERATOR: The Consumers' Gas Co. Ltd,		TARGET: ORD		CUR STATUS: OS-ABD	

DRILLING DATA				DATES		COORDINATES		SAMPLES	
CONTRACTOR:	Underwater Gas Developers			PERMIT:	86-01-28	NORTH:	107.0 m	TOP:	77
RIG TYPE:	ROT	DEPTHS		SPUD:	86-01-27	SOUTH:	- m	BOT:	1122
CABLE TOP:	-	KB ELEV:	191.9	COMPTD:	86-02-02	EAST:	270.0 m	TRAY:	6862-63
BOT:	-	LOGGER:	1121.7	OFFCNF:	87-02-02	WEST:	- m		
ROTRY TOP:	3,0	DRILLER:	1121.7	WRKOVR:	-	LAT:	42-08-15		
BOT:	1121.7	DEEP END:	-	ABNDND:	87-02-24	LONG:	82-24-14		
DRLG FLD:	-	PLUG BK:	-						

INITIAL GAS RECORD		
INTERVAL	FLOW	SIP
-		
-		
-		
-		
-		
-		

CASING AND TUBING RECORD				
DIAM.	WEIGHT	SET AT	HOW SET	RECOV
244	54.0	68.6	CEM	-
178	30.0	531.4	CEM	-

COMPLETION DATA	
GAS:	$10^3 m^3/d$
OIL:	m^3/d
SIP:	kPa
FORM:	
INTRVL:	m
	m
	m
PERF ☐	OPEN HOLE ☐

REMARKS

INITIAL OIL RECORD		
INTERVAL	FLOW	DENSITY
950 - -	-	-
-		
-		
-		
-		

LOGGING RECORD		
INTERVAL	TYPE	COMPANY
30.0 - 1111.0	GRL	SCH
30.0 - 1113.5	CNL	"
30.0 - 1121.0	LDT	"
30.0 - 1121.0	PEF	"
532.0 - 1118.0	LATL	"
532.0 - 1121.0	MSFL	"
50.0 - 1121.0	SONL	"

INITIAL WATER RECORD		
INTERVAL	STAT. LEV	TYPE
171,0 - -	-	SUL
212,0 - -	-	SUL
924,0 - -	-	SAL
1075,0 - -	-	SAL
-		
-		

CORING RECORD			
INTERVAL	LOCATION	NO.	mm
-			
-			
-			
-			
-			

	GEOLOGICAL CONTACTS	TOP	ELEV	THICK
	KB / LAKE LEVEL	0		
	DRIFT / LAKE BOTTOM	3,0		
DEVONIAN	PORT LAMBTON			
	KETTLE POINT	44,9		
	HAMILTON	50,0		
	MARCELLUS			
	DUNDEE	95,1		
	COLUMBUS			
	LUCAS	141,0		
	AMHERSTBURG	167,9		
	SYLVANIA			
	BOIS BLANC	201.0		
	SPRINGVALE	212.0		
	ORISKANY			
SILURIAN	BASS ISLANDS	224.0		
	G SHALE	267.8		
	F SHALE	275.0		
	F SALT			
	E CARBONATE	317.2		
	D SALT/EQUIVALENT			
	C SHALE	344.5		
	B MARKER	357.6		
	B EQUIVALENT	363.3		
	B SALT			
	B ANHYDRITE	372.9		
	A2 CARBONATE	378.5		
	A2 SALT			

SILURIAN	A2 ANHYDRITE	398.1		
	A1 CARBONATE	401.9		
	A1 SALT			
	A1 ANHYDRITE			
	GUELPH	413.7		
	ERAMOSA			
	GOAT ISLAND	475.4		
	GASPORT/WIARTON	509.6		
	DECEW			
	ROCHESTER	513.2		
	IRONDEQUOIT			
	REYNALES/FOSSIL HILL	520.3		
	THOROLD			
	GRIMSBY			
	CABOT HEAD	523.4		
	MANITOULIN	562.3		
	WHIRLPOOL			
ORDOVICIAN	QUEENSTON	572.7		
	BLUE MOUNTAIN - GEORG. BAY	667.2		
	COLLINGWOOD			
	COBOURG	820.0		
	VERULAM	830.0		
	KIRKFIELD	886.5		
	COBOCONK	928.2		
	GULL RIVER	959.8		
	SHADOW LAKE	1066.7		
	CAMBRIAN	1067.5		
	PRECAMBRIAN	1100.9		

GEOLOGY BY: T. R. Carter

CTY: Kent	TWP: Romney	BLK: -	TRAC: 3	LOT: 8	CON: II
WELL NAME: Cons et al 34011, Romney 3-8-II		PERMIT: 6944		INIT CLASS: NFW	
OPERATOR: The Consumers' Gas Co. Ltd.		TARGET: ORD		CUR STATUS: OP	

DRILLING DATA				DATES		COORDINATES		SAMPLES	
CONTRACTOR:				PERMIT:	85-12-05	NORTH:	- m	TOP:	48
RIG TYPE:	ROT	DEPTHS		SPUD:	86-01-14	SOUTH:	563.9 m	BOT:	1100
CABLE TOP:	-	KB ELEV:	185.1	COMPTD:	86-01-22	EAST:	106.7 m	TRAY:	9140-41
BOT:	-	LOGGER:	1100.8	OFFCNF:	87-01-22	WEST:	- m		
ROTRY TOP:	3.0	DRILLER:	1100.0	WRKOVR:	-	LAT:	42-06-23.5		
BOT:	1100.0	DEEP END:	-	ABNDND:	-	LONG:	82-26-58		
DRLG FLD:	-	PLUG BK:	1090.6						

INITIAL GAS RECORD		
INTERVAL	FLOW	SIP
833 - 854	-	-
-		
-		
-		
-		
-		

CASING AND TUBING RECORD				
DIAM.	WEIGHT	SET AT	HOW SET	RECOV.
244	54.0	47.6	CEM	63
178	29.8	504.5	CEM	-
114	14.0	1092.6	CEM	375

COMPLETION DATA	
GAS:	$10^3 m^3/d$
OIL:	m^3/d
SIP:	kPa
FORM: Verulam	
INTRVL: 853.3 - 854.7	m
	m
	m
PERF ☑	OPEN HOLE ☐

REMARKS

30.0 - 1100.8 | SONL | SCH

INITIAL OIL RECORD		
INTERVAL	FLOW	DENSITY
833 - 854	-	-
-		
-		
-		
-		

LOGGING RECORD		
INTERVAL	TYPE	COMPANY
775.0 - 935.0	CMPL	SCH
30.0 - 1091.0	GRL	"
30.0 - 1094.5	CNL	"
30.0 - 1100.8	LDT	"
30.0 - 1100.8	PEF	"
320.0 - 1096.9	LATL	"
320.0 - 1099.9	MSFL	"

INITIAL WATER RECORD		
INTERVAL	STAT LEV	TYPE
99,0 - -	-	SAL
164,0 - -	-	SUL
405,0 - -	-	SUL
-		
-		
-		

CORING RECORD			
INTERVAL	LOCATION	NO.	mm
-			
-			
-			
-			
-			

	GEOLOGICAL CONTACTS	TOP	ELEV	THICK
	KB / LAKE LEVEL	0		
	DRIFT / LAKE BOTTOM	3.0		
DEVONIAN	PORT LAMBTON			
	KETTLE POINT			
	HAMILTON			
	MARCELLUS			
	DUNDEE	40.5		
	COLUMBUS			
	LUCAS	78.0		
	AMHERSTBURG	100.5		
	SYLVANIA			
	BOIS BLANC	131.3		
	SPRINGVALE			
	ORISKANY			
SILURIAN	BASS ISLANDS	156.0		
	G SHALE	239.1		
	F SHALE	265.8		
	F SALT			
	E CARBONATE	287.3		
	D SALT/EQUIVALENT			
	C SHALE	316.1		
	B MARKER	333.3		
	B EQUIVALENT	338.9		
	B SALT			
	B ANHYDRITE	348.3		
	A2 CARBONATE	355.5		
	A2 SALT			

SILURIAN	A2 ANHYDRITE	375.1		
	A1 CARBONATE	378.5		
	A1 SALT			
	A1 ANHYDRITE	380.0		
	GUELPH	381.7		
	ERAMOSA			
	GOAT ISLAND	423.0		
	GASPORT/WIARTON	487.5		
	DECEW			
	ROCHESTER	498.2		
	IRONDEQUOIT			
	REYNALES/FOSSIL HILL	505.0		
	THOROLD			
	GRIMSBY			
	CABOT HEAD	508.0		
	MANITOULIN	547.4		
	WHIRLPOOL			
ORDOVICIAN	QUEENSTON	557.0		
	BLUE MOUNTAIN - GEORG. BAY	648.5		
	COLLINGWOOD			
	COBOURG	803.0		
	VERULAM	810.0		
	KIRKFIELD	855.5		
	COBOCONK	904.2		
	GULL RIVER	941.5		
	SHADOW LAKE	1038.6		
	CAMBRIAN			
	PRECAMBRIAN			

GEOLOGY BY: T. R. Carter

CTY: Kent TWP: Romney BLK: - TRAC: 5 LOT: 8 CON: II
WELL NAME: Cons et al 34160, Romney 5-8-II PERMIT: 7071 INIT CLASS: DEV
OPERATOR: The Consumers' Gas Co, Ltd. TARGET: ORD CUR STATUS: OS - ABD

DRILLING DATA		DATES	COORDINATES	SAMPLES
CONTRACTOR: Underwater Gas Developers Ltd.		PERMIT: 86-11-13	NORTH: - m	TOP: 0
RIG TYPE: ROT	DEPTHS	SPUD: 86-11-25	SOUTH: 722.7 m	BOT: 980
CABLE TOP: -	KB ELEV: - 184.8	COMPTD: 86-12-04	EAST: - m	TRAY: 9166-67
BOT: -	LOGGER: 980.0 m	OFFCNF: 87-01-03	WEST: 150.0 m	
ROTRY TOP: 3.0 m	DRILLER: 980.0 m	WRKOVR: 87-06 -	LAT: 42-06-27	
BOT: 980.0 m	DEEP END: -	ABNDND: 88 - 07 - 20	LONG: 82-26-42	
DRLG FLD: -	PLUG BK: -			

INITIAL GAS RECORD		
INTERVAL	FLOW	BP
829 - -	-	-
-		
-		
-		
-		
-		

CASING AND TUBING RECORD				
DIAM	WEIGHT	SET AT	HOW SET	RECOV
244	54	49.7	CEM	-
178	29.8	520.4	CEM	-
114	14.0	951.6	CEM	-

COMPLETION DATA	
GAS:	10³m³/d
OIL:	m³/d
BP:	kPa
FORM:	
INTRVL:	m
	m
	m
PERF ☒	OPEN HOLE ☐
REMARKS	
520,0-975.0 LATL "	
520,0-979.0 MSFL "	

INITIAL OIL RECORD		
INTERVAL	FLOW	DENSITY
824 - -		
829 -		
865 -		
948 -		
956 -		

LOGGING RECORD		
INTERVAL	TYPE	COMPANY
496.0 - 940.0	CBND	SCHLUMBERGER
520.0 - 979.0	ELDR	"
30.0 - 969.5	GRL	"
30.0 - 972.5	CNL	"
30.0 - 979.0	LDT	"
30.0 - 979.0	PEF	"
30.0 - 979.0	SONL	"

INITIAL WATER RECORD		
INTERVAL	STAT LEV	TYPE
118 - -	-	SUL
145 - -		SUL
966 - -		SAL
-		
-		
-		

CORING RECORD			
INTERVAL	LOCATION	NO.	ANAL
806.5 - 866.5	PRL		Y
-			
-			
-			
-			

	GEOLOGICAL CONTACTS	TOP	ELEV	THICK			TOP		
	KB / ~~LAKE LEVEL~~	0			SILURIAN	A2 ANHYDRITE	380.0		
	DRIFT / ~~LAKE BOTTOM~~	3.0				A1 CARBONATE	385.9		
DEVONIAN	PORT LAMBTON	-				A1 SALT	-		
	KETTLE POINT	-				A1 ANHYDRITE	-		
	HAMILTON	-				GUELPH	393.0		
	MARCELLUS	-				ERAMOSA	-		
	DUNDEE	42.3				GOAT ISLAND	428.2		
	COLUMBUS	-				GASPORT/WHARTON	492.0		
	LUCAS	83.0				DECEW	-		
	AMHERSTBURG	104				ROCHESTER	503.2		
	SYLVANIA	-				IRONDEQUOIT	-		
	BOIS BLANC	143				REYNALES/FOSSIL HILL	510.2		
	SPRINGVALE	-				THOROLD	-		
	ORISKANY	-				GRIMSBY	-		
SILURIAN	BASS ISLANDS	158.0				CABOT HEAD	513.3		
	G SHALE	243.0				MANITOULIN	552.2		
	F SHALE	250.5				WHIRLPOOL	-		
	F SALT	-			ORDOVICIAN	QUEENSTON	562.1		
	E CARBONATE	289.8				BLUE MOUNTAIN - GEORG BAY	653.6		
	D SALT/EQUIVALENT	-				COLLINGWOOD	-		
	C SHALE	318.0				COBOURG	806.5		
	B MARKER	334.3				VERULAM	814.0		
	B EQUIVALENT	341.4				KIRKFIELD	866 .6		
	B SALT	-				COBOCONK	905.8		
	B ANHYDRITE	355.8				GULL RIVER	936.0		
	A2 CARBONATE	361.2				SHADOW LAKE	-		
	A2 SALT	-			CAMBRIAN		-		
					PRECAMBRIAN				

GEOLOGY BY: T.R. Carter

CTY: Kent TWP: Zone BLK: - TRAC: 2-3 LOT: 10 CON: VI
WELL NAME: Bryant-Union, Zone 2-3-10-VI PERMIT: 6917 INIT CLASS: DEV
OPERATOR: R.G. Bryant Energy Associates Inc. TARGET: DEV CUR STATUS: OP

DRILLING DATA		DATES	COORDINATES	SAMPLES
CONTRACTOR: Ron Smith Well Drilling Ltd.		PERMIT: 85-11-07	NORTH: - m	TOP: 23.0
RIG TYPE: CAB	DEPTHS	SPUD: 86-03-18	SOUTH: 65.0 m	BOT: 112.8
CABLE TOP: 0.8	KB ELEV: 199.3	COMPTD: 86-03-28	EAST: - m	TRAY: 469
BOT: 113.5	LOGGER: 113.5	OFFCNF: 86-04-27	WEST: 403.0 m	
ROTRY TOP: -	DRILLER: 112.2	WRKOVR: 87-06-19	LAT: 42-37-22	
BOT: -	DEEP END: -	ABNDND: -	LONG: 81-55-05	
DRLG FLD: -	PLUG BK: -			

INITIAL GAS RECORD		
INTERVAL	FLOW	BP
107.3 - 110.6	-	-
-		
-		
-		
-		
-		

CASING AND TUBING RECORD				
DIAM	WEIGHT	SET AT	HOW SET	RECOV
219	35.7	6.9	BAR	-
178	34.2	23.2	SHO	-
139.7	20.8	89.0	SHO	89.0
114.3	14.1	103.6	CEM	-

COMPLETION DATA	
GAS: -	10³m³/d
OIL: -	m³/d
BP: -	kPa
FORM: Dundee	
INTRVL: 90.2 - 110.6	m
	m
	m
PERF ☐	OPEN HOLE ☒
REMARKS	

INITIAL OIL RECORD		
INTERVAL	FLOW	DENSITY
90.2 - 95.1	-	-
97.8 - 99.0	-	-
107.3 - 110.6	-	-
-		
-		

LOGGING RECORD		
INTERVAL	TYPE	COMPANY
0 - 113.5	GRL	COMP
0 - 113.5	NEUT	"
88.4 - 113.5	DENL	"
-		
-		
-		
-		

INITIAL WATER RECORD		
INTERVAL	STAT LEV	TYPE
16.8 - -	-	FRE
-		
-		
-		
-		
-		

CORING RECORD			
INTERVAL	LOCATION	NO.	ANAL
-			
-			
-			
-			
-			

	GEOLOGICAL CONTACTS	TOP	ELEV	THICK					
	KB / LAKE LEVEL	0			SILURIAN	A2 ANHYDRITE			
	DRIFT / LAKE BOTTOM	0.8				A1 CARBONATE			
DEVONIAN	PORT LAMBTON					A1 SALT			
	KETTLE POINT					A1 ANHYDRITE			
	HAMILTON	21.6				GUELPH			
	MARCELLUS					ERAMOSA			
	DUNDEE	88.7				GOAT ISLAND			
	COLUMBUS					GASPORT/WHARTON			
	LUCAS					DECEW			
	AMHERSTBURG					ROCHESTER			
	SYLVANIA					IRONDEQUOIT			
	BOIS BLANC					REYNALES/FOSSIL HILL			
	SPRINGVALE					THOROLD			
	ORISKANY					GRIMSBY			
SILURIAN	BASS ISLANDS					CABOT HEAD			
	G SHALE					MANITOULIN			
	F SHALE					WHIRLPOOL			
	F SALT				ORDOVICIAN	QUEENSTON			
	E CARBONATE					BLUE MOUNTAIN - GEORG BAY			
	D SALT/EQUIVALENT					COLLINGWOOD			
	C SHALE					COBOURG			
	B MARKER					VERULAM			
	B EQUIVALENT					KIRKFIELD			
	B SALT					COBOCONK			
	B ANHYDRITE					GULL RIVER			
	A2 CARBONATE					SHADOW LAKE			
	A2 SALT				CAMBRIAN				
					PRECAMBRIAN				

GEOLOGY BY: T. R. Carter

CTY	Kent	TWP	Zone	BLK	–	TRAC	4-4	LOT	11	CON	VI
WELL NAME	Bryant-Union, Zone 4-4-11-VI			PERMIT	6918	INIT CLASS	NPW				
OPERATOR	R.G. Bryant Energy Associates Inc.			TARGET	DEV	CUR STATUS	OP				

DRILLING DATA

CONTRACTOR	Ron Smith Well Drilling Ltd.		
RIG TYPE	CAB	DEPTHS	
CABLE TOP	0.8	KB ELEV	199.3
BOT	112.3	LOGGER	112.3
ROTRY TOP	–	DRILLER	113.1
BOT	–	DEEP END	–
DRLG FLD	–	PLUG BK	–

DATES

PERMIT	85-11-07
SPUD	86-03-06
COMPTD	86-03-15
OFFCNF	87-03-15
WRKOVR	–
ABNDND	–

COORDINATES

NORTH	89.0	m
SOUTH	–	m
EAST	–	m
WEST	564.0	m
LAT	42-55-12	
LONG	81-37-28	

SAMPLES

TOP	20.0
BOT	111.9
TRAY	362

INITIAL GAS RECORD

INTERVAL	FLOW	SIP
34 – –	–	–
–		
–		
–		
–		
–		

CASING AND TUBING RECORD

DIAM	WEIGHT	SET AT	HOW SET	RECOV
219	35.7	7.9	BAR	–
178	34.2	23.2	SHO	–
139.7	20.8	92.4	SHO	–

COMPLETION DATA

GAS	–	10³m³/d
OIL	–	m³/d
SIP	–	kPa
FORM	Dundee	
INTRVL	98.1 - 111.6	m
		m
		m
PERF ☐	OPEN HOLE ☐	

REMARKS

INITIAL OIL RECORD

INTERVAL	FLOW	DENSITY
95 – 96	–	–
98.1 – 99.4	–	–
107.8 – 111.6	–	–
–		
–		

LOGGING RECORD

INTERVAL	TYPE	COMPANY
0 – 109.7	GRL	COMP
0 – 112.3	NEUT	"
87.8 – 112.3	DENL	"
–		
–		
–		
–		

INITIAL WATER RECORD

INTERVAL	STAT LEV	TYPE
22.8 – –	–	FRE
92.9 – –	–	SUL
–		
–		
–		
–		

CORING RECORD

INTERVAL	LOCATION	NO	mm
–			
–			
–			
–			
–			

	GEOLOGICAL CONTACTS	TOP	ELEV	THICK
	KB / LAKE LEVEL	0		
	DRIFT / LAKE BOTTOM	0.8		
DEVONIAN	PORT LAMBTON			
	KETTLE POINT			
	HAMILTON	23.2		
	MARCELLUS			
	DUNDEE	89.0		
	COLUMBUS			
	LUCAS			
	AMHERSTBURG			
	SYLVANIA			
	BOIS BLANC			
	SPRINGVALE			
	ORISKANY			
SILURIAN	BASS ISLANDS			
	G SHALE			
	F SHALE			
	F SALT			
	E CARBONATE			
	D SALT/EQUIVALENT			
	C SHALE			
	B MARKER			
	B EQUIVALENT			
	B SALT			
	B ANHYDRITE			
	A2 CARBONATE			
	A2 SALT			
SILURIAN	A2 ANHYDRITE			
	A1 CARBONATE			
	A1 SALT			
	A1 ANHYDRITE			
	GUELPH			
	ERAMOSA			
	GOAT ISLAND			
	GASPORT/WHARTON			
	DECEW			
	ROCHESTER			
	IRONDEQUOIT			
	REYNALES/FOSSIL HILL			
	THOROLD			
	GRIMSBY			
	CABOT HEAD			
	MANITOULIN			
	WHIRLPOOL			
ORDOVICIAN	QUEENSTON			
	BLUE MOUNTAIN - GEORG BAY			
	COLLINGWOOD			
	COBOURG			
	VERULAM			
	KIRKFIELD			
	COBOCONK			
	GULL RIVER			
	SHADOW LAKE			
	CAMBRIAN			
	PRECAMBRIAN			

GEOLOGY BY T. R. Carter

CTY	Kent	TWP	Zone	BLK	–	TRAC	3-2	LOT	18	CON	RR
WELL NAME	Brett Zone 3-2-18-RR			PERMIT	6957	INIT CLASS	NPW				
OPERATOR	H. Brett & Associates Ltd.			TARGET	DEV	CUR STATUS	OS				

DRILLING DATA

CONTRACTOR	Bothwell Drilling & Servicing		
RIG TYPE	ROT	DEPTHS	
CABLE TOP	–	KB ELEV	206.7
BOT	–	LOGGER	–
ROTRY TOP	51.2	DRILLER	196.9
BOT	196.9	DEEP END	–
DRLG FLD	–	PLUG BK	–

DATES

PERMIT	85-12-19
SPUD	85-12-02
COMPTD	86-06-23
OFFCNF	86-07-23
WRKOVR	–
ABNDND	–

COORDINATES

NORTH	–	m
SOUTH	440.4	m
EAST	102.7	m
WEST	–	m
LAT	42-36-31.5	
LONG	81-51-18	

SAMPLES

TOP	49.0
BOT	195.1
TRAY	146

INITIAL GAS RECORD

INTERVAL	FLOW	SIP
73.5 – 81.7	–	–
91.1 – 92.0	–	–
–		
–		
–		
–		

CASING AND TUBING RECORD

DIAM	WEIGHT	SET AT	HOW SET	RECOV
273.0	65.5	5.5	CEM	–
177.8	25.3	75.6	CEM	–
114.3	20.8	161.2	CEM	–

COMPLETION DATA

GAS		10³m³/d
OIL		m³/d
SIP		kPa
FORM		
INTRVL		m
		m
		m
PERF ☒	OPEN HOLE ☐	

REMARKS

INITIAL OIL RECORD

INTERVAL	FLOW	DENSITY
73.5 – 81.7	–	–
91.1 – 91.0	–	–
–		
–		
–		

LOGGING RECORD

INTERVAL	TYPE	COMPANY
56.4 – 140.8	GRL	COMP
56.4 – 143.3	NEUT	"
–		
–		
–		
–		
–		

INITIAL WATER RECORD

INTERVAL	STAT LEV	TYPE
73.5 – 81.7	–	–
91.1 – 92.0	–	–
178.6 – –	–	SUL
–		
–		
–		

CORING RECORD

INTERVAL	LOCATION	NO.	mm
–			
–			
–			
–			
–			

	GEOLOGICAL CONTACTS	TOP	ELEV	THICK
	KB / LAKE LEVEL	0		
	DRIFT / LAKE BOTTOM	1.5		
DEVONIAN	PORT LAMBTON			
	KETTLE POINT			
	HAMILTON	51.2		
	MARCELLUS			
	DUNDEE	73.2		
	COLUMBUS	123.4		
	LUCAS	135.0		
	AMHERSTBURG	176.8		
	SYLVANIA			
	BOIS BLANC			
	SPRINGVALE			
	ORISKANY			
SILURIAN	BASS ISLANDS			
	G SHALE			
	F SHALE			
	F SALT			
	E CARBONATE			
	D SALT/EQUIVALENT			
	C SHALE			
	B MARKER			
	B EQUIVALENT			
	B SALT			
	B ANHYDRITE			
	A2 CARBONATE			
	A2 SALT			
SILURIAN	A2 ANHYDRITE			
	A1 CARBONATE			
	A1 SALT			
	A1 ANHYDRITE			
	GUELPH			
	ERAMOSA			
	GOAT ISLAND			
	GASPORT/WHARTON			
	DECEW			
	ROCHESTER			
	IRONDEQUOIT			
	REYNALES/FOSSIL HILL			
	THOROLD			
	GRIMSBY			
	CABOT HEAD			
	MANITOULIN			
	WHIRLPOOL			
ORDOVICIAN	QUEENSTON			
	BLUE MOUNTAIN - GEORG BAY			
	COLLINGWOOD			
	COBOURG			
	VERULAM			
	KIRKFIELD			
	COBOCONK			
	GULL RIVER			
	SHADOW LAKE			
	CAMBRIAN			
	PRECAMBRIAN			

GEOLOGY BY T. R. Carter

CTY	Haldimand	TWP	Lake Erie	BLK	17	TRAC	L-4
LOT	-	CON	-				
WELL NAME	Place Walpole Lake Erie 17-L-4	PERMIT	7036	INIT CLASS	DEV		
OPERATOR	Place Resources Corporation	TARGET	CLI	CUR STATUS	GP		

DRILLING DATA				DATES		COORDINATES		SAMPLES
CONTRACTOR	Place Resources Corporation			PERMIT	86-08-11	NORTH	m	TOP 27.1 m
RIG TYPE	CAB	DEPTHS		SPUD	86-07-28	SOUTH	m	BOT 274.3 m
CABLE TOP	17.7 m	KB ELEV	178.3 m	COMPTD	86-08-18	EAST	m	TRAY 9784
BOT	275.2 m	LOGGER		OFFCNF	86-09-18	WEST	m	
ROTRY TOP		DRILLER		WRKOVR		LAT	42-47-23.7	
BOT		DEEP END		ABNDND		LONG	79-56-2.5	
DRLG FLD		PLUG BK						

INITIAL GAS RECORD			CASING AND TUBING RECORD					COMPLETION DATA	
INTERVAL	FLOW	SIP	DIAM	WEIGHT	SET AT	HOW SET	RECOV		
267.9 –	0.594		219.1	35.7	19.8	SHO	17.7	GAS	0.594 10³m³/d
–			114.3	14.1	256.6	CEM	17.7	OIL	m³/d
–			25.4	-	239.6	-	-	SIP	kPa
–								FORM	Grimsby
–								INTRVL	267.9 (top) m
–									m

INITIAL OIL RECORD			LOGGING RECORD			COMPLETION DATA
						m
INTERVAL	FLOW	DENSITY	INTERVAL	TYPE	COMPANY	PERF ☐ OPEN HOLE ☒
–			–			REMARKS
–			–			
–			–			
–			–			
–			–			
			–			

INITIAL WATER RECORD			CORING RECORD			
INTERVAL	STAT LEV	TYPE	INTERVAL	LOCATION	NO.	mm
21.3 – -		SUL	–			
–			–			
–			–			
–			–			
–			–			
–			–			

GEOLOGICAL CONTACTS		TOP	ELEV	THICK					
	KB / LAKE LEVEL	3.7				A2 ANHYDRITE			
	DRIFT / LAKE BOTTOM	17.7				A1 CARBONATE			
DEVONIAN	PORT LAMBTON					A1 SALT			
	KETTLE POINT					A1 ANHYDRITE			
	HAMILTON					GUELPH	154.8		
	MARCELLUS					ERAMOSA			
	DUNDEE					GOAT ISLAND			
	COLUMBUS				SILURIAN	GASPORT/WIARTON			
	LUCAS					DECEW	222.5		
	AMHERSTBURG	19.5				ROCHESTER	236.2		
	SYLVANIA					IRONDEQUOIT	252.0		
	BOIS BLANC	36.0				REYNALES/~~FOSSIL HILL~~	256.0		
	SPRINGVALE	43.9				THOROLD	258.0		
	ORISKANY					GRIMSBY	262.4		
SILURIAN	BASS ISLANDS	44.1				CABOT HEAD	273.0		
	G SHALE					MANITOULIN			
	F SHALE	58.0				WHIRLPOOL			
	F SALT				ORDOVICIAN	QUEENSTON			
	E CARBONATE					BLUE MOUNTAIN - GEORG. BAY			
	D SALT/EQUIVALENT					COLLINGWOOD			
	C SHALE	110.2				COBOURG			
	B MARKER					VERULAM			
	B EQUIVALENT					KIRKFIELD			
	B SALT					COBOCONK			
	B ANHYDRITE					GULL RIVER			
	A2 CARBONATE	136.2				SHADOW LAKE			
	A2 SALT					CAMBRIAN			
						PRECAMBRIAN			

GEOLOGY BY T.R. Carter

CTY	Haldimand	TWP	Lake Erie	BLK	22	TRAC	J-4
LOT	-	CON	-				
WELL NAME	Place Lake Erie 22-J-4	PERMIT	7043	INIT CLASS	DEV		
OPERATOR	Place Resources Corporation	TARGET	CLI	CUR STATUS	GP		

DRILLING DATA				DATES		COORDINATES		SAMPLES
CONTRACTOR	Place Resources Corporation			PERMIT	86-09-03	NORTH	m	TOP 45.7 m
RIG TYPE	CAB	DEPTHS		SPUD	86-09-06	SOUTH	m	BOT 307.8 m
CABLE TOP	28.2 m	KB ELEV	182.8 m	COMPTD	86-09-23	EAST	m	TRAY 5665
BOT	307.9 m	LOGGER		OFFCNF	86-10-23	WEST	m	missing
ROTRY TOP		DRILLER	307.9 m	WRKOVR		LAT	42-48-23.6	samples
BOT		DEEP END		ABNDND		LONG	79-30-8.7	252.7 -
DRLG FLD		PLUG BK						256.9

INITIAL GAS RECORD			CASING AND TUBING RECORD					COMPLETION DATA	
INTERVAL	FLOW	SIP	DIAM	WEIGHT	SET AT	HOW SET	RECOV		
272.5 –	0.566		203.2	35.7	46.6	SHO	28.2	GAS	1.1104 10³m³/d
303.9 –	0.255		114.3	14.1	261.5	CEM	28.2	OIL	m³/d
303.9 – 306.0	1.104		25.4	-	303.0	-	28.2	SIP	kPa
–								FORM	Thorold/ Whirlpoo
–								INTRVL	272.5 (top) m
–									306.0 (btm) m

INITIAL OIL RECORD			LOGGING RECORD			COMPLETION DATA
						m
INTERVAL	FLOW	DENSITY	INTERVAL	TYPE	COMPANY	PERF ☐ OPEN HOLE ☒
–			–			REMARKS
–			–			
–			–			
–			–			
–			–			
			–			

INITIAL WATER RECORD			CORING RECORD			
INTERVAL	STAT LEV	TYPE	INTERVAL	LOCATION	NO.	mm
99.7 –		SUL	–			
–			–			
–			–			
–			–			
–			–			
–			–			

GEOLOGICAL CONTACTS		TOP	ELEV	THICK					
	KB / LAKE ~~LEVEL~~	8.2				A2 ANHYDRITE			
	~~DRIFT~~/ LAKE BOTTOM	28.2				A1 CARBONATE			
DEVONIAN	PORT LAMBTON					A1 SALT			
	KETTLE POINT					A1 ANHYDRITE			
	HAMILTON					GUELPH	175.0		
	MARCELLUS					ERAMOSA	201.5		
	DUNDEE					GOAT ISLAND			
	COLUMBUS				SILURIAN	GASPORT/WIARTON			
	LUCAS					DECEW	230.7		
	AMHERSTBURG					ROCHESTER	240.8		
	SYLVANIA					IRONDEQUOIT	261.0		
	BOIS BLANC	45.7				REYNALES/~~FOSSIL HILL~~	264.0		
	SPRINGVALE					THOROLD	266.7		
	ORISKANY					GRIMSBY	273.4		
SILURIAN	BASS ISLANDS	53.7				CABOT HEAD	285.0		
	G SHALE					MANITOULIN			
	F SHALE	70.0				WHIRLPOOL	302.0		
	F SALT				ORDOVICIAN	QUEENSTON	305.0		
	E CARBONATE	109.5				BLUE MOUNTAIN - GEORG. BAY			
	D SALT/EQUIVALENT					COLLINGWOOD			
	C SHALE	130.0				COBOURG			
	B MARKER					VERULAM			
	B EQUIVALENT					KIRKFIELD			
	B SALT					COBOCONK			
	B ANHYDRITE					GULL RIVER			
	A2 CARBONATE	157.0				SHADOW LAKE			
	A2 SALT					CAMBRIAN			
						PRECAMBRIAN			

GEOLOGY BY T.R. Carter

CTY: Haldimand	TWP: Lake Erie	BLK: 23	TRAC: D-4	LOT:	CON:
WELL NAME: Place Sherbrooke Lake Erie 23-D-4		PERMIT: 7056		INIT CLASS: DEV	
OPERATOR: Place REsources Corporation		TARGET: CLI		CUR STATUS: GP	

DRILLING DATA		DATES	COORDINATES	SAMPLES
CONTRACTOR: Place Resources Corporation		PERMIT: 86-10-22	NORTH: m	TOP: 29.6 m
RIG TYPE: CABLE	DEPTHS	SPUD: 86-10-13	SOUTH: m	BOT: 297.2 m
CABLE TOP: 25.1 m	KB ELEV: 182.1	COMPTD: 86-10-27	EAST: m	TRAY: 5643
BOT: 297.2 m	LOGGER:	OFFCNF:	WEST: m	missing
ROTRY TOP:	DRILLER: 297.2 m	WRKOVR:	LAT: 42-49-15	samples
BOT:	DEEP END:	ABNDND:	LONG: 79-28-15	118.9 - 1[illegible] 9
DRLG FLD:	PLUG BK:			

INITIAL GAS RECORD

INTERVAL	FLOW	SIP
292.0 – 293.5	0.821	2379
–		
–		
–		
–		
–		

CASING AND TUBING RECORD

DIAM	WEIGHT	SET AT	HOW SET	RECOV
219.1	35.7	30.2	SHO	25.1
114.3	14.1	249.6	CEM	25.1
~ 25.4				25.1

COMPLETION DATA

GAS: 0.821 10³m³/d
OIL: m³/d
SIP: 2379 kPa
FORM: Whirlpool
INTRVL: 292.0 (top) m
293.5 (btm) m
m
PERF ☐ OPEN HOLE ☒

REMARKS

INITIAL OIL RECORD

INTERVAL	FLOW	DENSITY
–		
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–		
–		
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LOGGING RECORD

INTERVAL	TYPE	COMPANY
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INITIAL WATER RECORD

INTERVAL	STAT LEV	TYPE
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CORING RECORD

INTERVAL	LOCATION	NO.	mm
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–			
–			
–			
–			
–			

	GEOLOGICAL CONTACTS	TOP	ELEV	THICK
	~~KB~~/ LAKE LEVEL	7.5		
	~~DRIFT~~ / LAKE BOTTOM	25.1		
DEVONIAN	PORT LAMBTON			
	KETTLE POINT			
	HAMILTON			
	MARCELLUS			
	DUNDEE			
	COLUMBUS			
	LUCAS			
	AMHERSTBURG			
	SYLVANIA			
	BOIS BLANC	32.3		
	SPRINGVALE	44.6		
	ORISKANY			
SILURIAN	BASS ISLANDS	45.3		
	G SHALE			
	F SHALE	63.0		
	F SALT			
	E CARBONATE	100.7		
	D SALT/EQUIVALENT			
	C SHALE	120.0		
	B MARKER			
	B EQUIVALENT			
	B SALT			
	B ANHYDRITE			
	A2 CARBONATE	131.4		
	A2 SALT			

SILURIAN	A2 ANHYDRITE			
	A1 CARBONATE			
	A1 SALT			
	A1 ANHYDRITE			
	GUELPH	163,7		
	ERAMOSA	186,7		
	~~GOAT ISLAND~~ Neahga	253,5		
	GASPORT/WIARTON			
	DECEW	225,6		
	ROCHESTER	230,0		
	IRONDEQUOIT	249,2		
	REYNALES/~~FOSSIL HILL~~	253,5		
	THOROLD	255,2		
	GRIMSBY	259,7		
	CABOT HEAD	274,0		
	MANITOULIN			
	WHIRLPOOL	289,0		
ORDOVICIAN	QUEENSTON	293,5		
	BLUE MOUNTAIN - GEORG BAY			
	COLLINGWOOD			
	COBOURG			
	VERULAM			
	KIRKFIELD			
	COBOCONK			
	GULL RIVER			
	SHADOW LAKE			
	CAMBRIAN			
	PRECAMBRIAN			

GEOLOGY BY: T. R. Carter

CTY: Haldimand	TWP: Lake Erie	BLK: 23	TRAC: E-4	LOT: -	CON: -
WELL NAME: Place Lake Erie 23-E -4		PERMIT: 7044		INIT CLASS: DEV	
OPERATOR: Place Resources Corporation		TARGET: CLI		CUR STATUS: GP	

DRILLING DATA		DATES	COORDINATES	SAMPLES
CONTRACTOR: Place Resources Corporation		PERMIT: 86-09-03	NORTH: m	TOP: 34,1
RIG TYPE: CABLE	DEPTHS	SPUD: 86-09-23	SOUTH: m	BOT: 300,2
CABLE TOP: 24.4 m	KB ELEV: 182.2 m	COMPTD: 86-10-13	EAST: m	TRAY: 9784
BOT: 302.4 m	LOGGER:	OFFCNF: 86-11-12	WEST: m	missing sam-
ROTRY TOP:	DRILLER: 302,4	WRKOVR:	LAT: 42-49-15	ples 264,3-
BOT:	DEEP END:	ABNDND:	LONG: 79-29-15	267,6
DRLG FLD:	PLUG BK:			

INITIAL GAS RECORD

INTERVAL	FLOW	SIP
269.9 –	0,396	
297.2 –	2,207	
298.1 –	2,321	
298.7 –	3,170	
–		
–		

CASING AND TUBING RECORD

DIAM	WEIGHT	SET AT	HOW SET	RECOV
219,1	35,7	32,6	SHO	24,4
114,3	14,1	256,6	CEM	24,4
25,4	-	300,2	HAN	24,4

COMPLETION DATA

GAS: 3,170 10³m³/d
OIL: m³/d
SIP: kPa
FORM: Whirlpool
INTRVL: 296,9 (top) m
298,7 (btm) m
m
PERF ☐ OPEN HOLE ☒

REMARKS

Neahga at 258.5

INITIAL OIL RECORD

INTERVAL	FLOW	DENSITY
–		
–		
–		
–		
–		

LOGGING RECORD

INTERVAL	TYPE	COMPANY
–		
–		
–		
–		
–		
–		

INITIAL WATER RECORD

INTERVAL	STAT LEV	TYPE
–		
–		
–		
–		
–		
–		

CORING RECORD

INTERVAL	LOCATION	NO.	mm
–			
–			
–			
–			
–			
–			

	GEOLOGICAL CONTACTS	TOP	ELEV	THICK
	~~KB~~ / LAKE LEVEL	7.6		
	~~DRIFT~~ / LAKE BOTTOM	24.4		
DEVONIAN	PORT LAMBTON			
	KETTLE POINT			
	HAMILTON			
	MARCELLUS			
	DUNDEE			
	COLUMBUS			
	LUCAS			
	AMHERSTBURG			
	SYLVANIA			
	BOIS BLANC	32,6		
	SPRINGVALE	42.7		
	ORISKANY			
SILURIAN	BASS ISLANDS	49.7		
	G SHALE			
	F SHALE	59.5		
	F SALT			
	E CARBONATE	97.5		
	D SALT/EQUIVALENT			
	C SHALE	123,7		
	B MARKER			
	B EQUIVALENT			
	B SALT			
	B ANHYDRITE			
	A2 CARBONATE	139,6		
	A2 SALT			

SILURIAN	A2 ANHYDRITE			
	A1 CARBONATE			
	A1 SALT			
	A1 ANHYDRITE			
	GUELPH	169.0		
	ERAMOSA	185.9		
	~~GOAT ISLAND~~			
	GASPORT/WIARTON			
	DECEW	227.1		
	ROCHESTER	236.2		
	IRONDEQUOIT	256.1		
	REYNALES/~~FOSSIL HILL~~	257.9		
	THOROLD	261.2		
	GRIMSBY	267.6		
	CABOT HEAD	282.5		
	MANITOULIN			
	WHIRLPOOL	295.0		
ORDOVICIAN	QUEENSTON	298.0		
	BLUE MOUNTAIN - GEORG BAY			
	COLLINGWOOD			
	COBOURG			
	VERULAM			
	KIRKFIELD			
	COBOCONK			
	GULL RIVER			
	SHADOW LAKE			
	CAMBRIAN			
	PRECAMBRIAN			

GEOLOGY BY: T.R. Carter

CTY:	Lambton	TWP:	Brooke	BLK:	-	TRAC:	6	LOT:	1	CON:	XIV
WELL NAME:	Roth & Roth Brooke 6-1-XIV					PERMIT:	6999	INIT CLASS:	NPW		
OPERATOR:	Roth and Roth Limited					TARGET:	SAL	CUR STATUS:	OP-GS		

DRILLING DATA			
CONTRACTOR:	Circle A. Drilling Inc.		
RIG TYPE:	CAB	DEPTHS	
CABLE TOP:	1.6	KB ELEV:	213.0
BOT:	620.0	LOGGER:	619.4
ROTRY TOP:	-	DRILLER:	620.0
BOT:	-	DEEP END:	-
DRLG FLD:	-	PLUG BK:	619.3

DATES		COORDINATES			SAMPLES	
PERMIT:	86-03-10	NORTH:	-	m	TOP:	14
SPUD:	86-03-11	SOUTH:	949.5	m	BOT:	620
COMPTD:	86-04-10	EAST:	135.6	m	TRAY:	8425
OFFCNF:	87-04-10	WEST:	-	m		
WRKOVR:	-	LAT:	42-55-18			
ABNDND:	-	LONG:	82-00-17			

INITIAL GAS RECORD

INTERVAL	FLOW	SIP
615 – 618	8.9	1172
–		
–		
–		
–		
–		

CASING AND TUBING RECORD

DIAM	WEIGHT	SET AT	HOW SET	RECOV
274	60.3	15.2	SHO	0
220	35.7	123.0	SHO	0
178	29.8	347.7	CEM	291.9
115	14.1	617.5	CEM	0
60	7.0	618.7	-	0

COMPLETION DATA

GAS:	-	10³m³/d
OIL:	6	m³/d
SIP:	-	kPa
FORM:	Guelph	
INTRVL:	617.8 - 619.3	m
		m
		m
PERF ☐		OPEN HOLE ☒

REMARKS

Anhydrite in F-unit from 379.2 to 393.2

INITIAL OIL RECORD

INTERVAL	FLOW	DENSITY
618 – 619.5	0.12	-
–		
–		
–		
–		

LOGGING RECORD

INTERVAL	TYPE	COMPANY
0 – 616.9	GRL	COM
0 – 618.7	NEUT	"
–		
–		
–		
–		
–		

INITIAL WATER RECORD

INTERVAL	STAT LEV	TYPE
159 – 163	60	SUL
–		
–		
–		
–		
–		

CORING RECORD

INTERVAL	LOCATION	NO.	mm
–			
–			
–			
–			
–			
–			

	GEOLOGICAL CONTACTS	TOP	ELEV	THICK
	KB / LAKE LEVEL	0		
	DRIFT / LAKE BOTTOM	1.6		
DEVONIAN	PORT LAMBTON			
	KETTLE POINT	14.9		
	HAMILTON	39.3		
	MARCELLUS			
	DUNDEE	122.8		
	COLUMBUS			
	LUCAS	149.0		
	AMHERSTBURG	225.0		
	SYLVANIA			
	BOIS BLANC	284.0		
	SPRINGVALE	301.0		
	ORISKANY			
SILURIAN	BASS ISLANDS	301.5		
	G SHALE	366.6		
	F SHALE	352.7		
	F SALT	393.2		
	E CARBONATE	398.0		
	D SALT/EQUIVALENT	422.1		
	C SHALE	431.9		
	B MARKER	445.3		
	B EQUIVALENT			
	B SALT	452.9		
	B ANHYDRITE			
	A2 CARBONATE	515.6		
	A2 SALT			

		TOP	ELEV	THICK
SILURIAN	A2 ANHYDRITE	547.7		
	A1 CARBONATE			
	A1 SALT			
	A1 ANHYDRITE			
	GUELPH	553.2		
	ERAMOSA			
	GOAT ISLAND			
	GASPORT/WIARTON			
	DECEW			
	ROCHESTER			
	IRONDEQUOIT			
	REYNALES/FOSSIL HILL			
	THOROLD			
	GRIMSBY			
	CABOT HEAD			
	MANITOULIN			
	WHIRLPOOL			
ORDOVICIAN	QUEENSTON			
	BLUE MOUNTAIN - GEORG BAY			
	COLLINGWOOD			
	COBOURG			
	VERULAM			
	KIRKFIELD			
	COBOCONK			
	GULL RIVER			
	SHADOW LAKE			
	CAMBRIAN			
	PRECAMBRIAN			

GEOLOGY BY: T. R. Carter

CTY:	Lambton	TWP:	Brooke	BLK:	-	TRAC:	5	LOT:	18	CON:	II
WELL NAME:	Ram #88 Brooke 5-18-II					PERMIT:	6958	INIT CLASS:	NPW		
OPERATOR:	Ram Petroleums Ltd.					TARGET:	ORD	CUR STATUS:	DH-ABD		

DRILLING DATA			
CONTRACTOR:	Corunna Drilling Ltd.		
RIG TYPE:	ROT	DEPTHS	
CABLE TOP:	-	KB ELEV:	213.7
BOT:	-	LOGGER:	1202.0
ROTRY TOP:	3.7	DRILLER:	1200.0
BOT:	1200.0	DEEP END:	-
DRLG FLD:	BRINE	PLUG BK:	-

DATES		COORDINATES			SAMPLES	
PERMIT:	85-12-19	NORTH:	-	m	TOP:	50
SPUD:	85-12-20	SOUTH:	850.0	m	BOT:	1198
COMPTD:	86-01-04	EAST:	-	m	TRAY:	9119- 20
OFFCNF:	87-01-04	WEST:	106.7	m		
WRKOVR:	-	LAT:	42-46-26.5			
ABNDND:	86-01-06	LONG:	81-52-17			

INITIAL GAS RECORD

INTERVAL	FLOW	SIP
–		
–		
–		
–		
–		
–		

CASING AND TUBING RECORD

DIAM	WEIGHT	SET AT	HOW SET	RECOV
299	62.5	47.6	CEM	0
220	35.7	460.0	CEM	135

COMPLETION DATA

GAS:		10³m³/d
OIL:		m³/d
SIP:		kPa
FORM:		
INTRVL:		m
		m
		m
PERF ☐		OPEN HOLE ☐

REMARKS

Interval 1176.0 to 1183.3 is porous - interpreted to be weathered zone on Precambrian surface.

INITIAL OIL RECORD

INTERVAL	FLOW	DENSITY
–		
–		
–		
–		
–		

LOGGING RECORD

INTERVAL	TYPE	COMPANY
449.0 –1192.0	GRL	SCH
449.0 –1194.0	CNL	"
449.0 –1201.0	LDT	"
460.0 –1197.5	LATL	"
460.0 –1201.0	MSFL	"
375.0 –1198.0	SONL	"
–		

INITIAL WATER RECORD

INTERVAL	STAT LEV	TYPE
–		
–		
–		
–		
–		
–		

CORING RECORD

INTERVAL	LOCATION	NO	mm
–			
–			
–			
–			
–			
–			

	GEOLOGICAL CONTACTS	TOP	ELEV	THICK
	KB / LAKE LEVEL	0.0		
	DRIFT / LAKE BOTTOM	3.7		
DEVONIAN	PORT LAMBTON			
	KETTLE POINT			
	HAMILTON	50.0		
	MARCELLUS			
	DUNDEE	131.5		
	COLUMBUS			
	LUCAS	155.0		
	AMHERSTBURG	248.0		
	SYLVANIA			
	BOIS BLANC	308.0		
	SPRINGVALE			
	ORISKANY			
SILURIAN	BASS ISLANDS	334.5		
	G SHALE	360.5		
	F SHALE	371.0		
	F SALT			
	E CARBONATE	421.0		
	D SALT/EQUIVALENT			
	C SHALE	443.5		
	B MARKER	459.1		
	B EQUIVALENT	465.3		
	B SALT			
	B ANHYDRITE	474.0		
	A2 CARBONATE	477.0		
	A2 SALT			

		TOP	ELEV	THICK
SILURIAN	A2 ANHYDRITE	512.2		
	A1 CARBONATE	514.0		
	A1 SALT			
	A1 ANHYDRITE	546.0		
	GUELPH	553.0		
	ERAMOSA			
	GOAT ISLAND	566.5		
	GASPORT/WIARTON	593.7		
	DECEW			
	ROCHESTER	599.5		
	IRONDEQUOIT			
	REYNALES/FOSSIL HILL	614.2		
	THOROLD			
	GRIMSBY			
	CABOT HEAD	616.1		
	MANITOULIN	647.0		
	WHIRLPOOL			
ORDOVICIAN	QUEENSTON	656.3		
	BLUE MOUNTAIN - GEORG BAY	746.2		
	COLLINGWOOD			
	COBOURG	905.3		
	VERULAM	939.8		
	KIRKFIELD	966.4		
	COBOCONK	1049.8		
	GULL RIVER	1075.8		
	SHADOW LAKE	1173.7		
	CAMBRIAN	-		
	PRECAMBRIAN	1176.0		

GEOLOGY BY: T. R. Carter

CTY:	Lambton	TWP:	Brooke	BLK:	-	TRAC:	3	LOT: 2	CON: XII
WELL NAME:	Smith et al. Brooke 3-2-XII			PERMIT:	7031	INIT CLASS:	NFW		
OPERATOR:	Ron Smith Well Drilling			TARGET:	SAL	CUR STATUS:	DH-ABD		

DRILLING DATA				DATES		COORDINATES		SAMPLES	
CONTRACTOR:	Ron Smith Well Drilling			PERMIT:	86-07-14	NORTH:	- m	TOP:	20.0
RIG TYPE:	CAB	DEPTHS		SPUD:	86-07-22	SOUTH:	562.3 m	BOT:	653.8
CABLE TOP:	1.2	KB ELEV:	212.4	COMPTD:	86-09-08	EAST:	141.7 m	TRAY:	8636
BOT:	651.7	LOGGER:	-	OFFCNF:	87-09-08	WEST:	- m		
ROTRY TOP:	-	DRILLER:	651.7	WRKOVR:	-	LAT:	42-53-55		
BOT:	-	DEEP END:	-	ABNDND:	86-09-16	LONG:	81-59-48		
DRLG FLD:	-	PLUG BK:	-						

INITIAL GAS RECORD		
INTERVAL	FLOW	SIP
-		
-		
-		
-		
-		
-		

CASING AND TUBING RECORD				
DIAM	WEIGHT	SET AT	HOW SET	RECOV
273	60.3	19.5	SHO	19.5
219	35.7	129.5	SHO	129.5
178	25.3	373.0	CEM	281.6

COMPLETION DATA	
GAS:	10³m³/d
OIL:	m³/d
SIP:	kPa
FORM:	
INTRVL:	m
	m
	m
PERF ☐	OPEN HOLE ☐
REMARKS	

INITIAL OIL RECORD		
INTERVAL	FLOW	DENSITY
-		
-		
-		
-		
-		

LOGGING RECORD		
INTERVAL	TYPE	COMPANY
-		
-		
-		
-		
-		
-		

INITIAL WATER RECORD		
INTERVAL	STAT LEV	TYPE
18.3 - -	0	FRE
192.0 - -	100	SUL
650.7 - 651.7	-	SAL
-		
-		
-		

CORING RECORD			
INTERVAL	LOCATION	NO.	mm
-			
-			
-			
-			
-			
-			

	GEOLOGICAL CONTACTS	TOP	ELEV	THICK
	KB / LAKE LEVEL	0		
	DRIFT / LAKE BOTTOM	1.2		
DEVONIAN	PORT LAMBTON			
	KETTLE POINT	21.0		
	HAMILTON	49.0		
	MARCELLUS			
	DUNDEE	128.0		
	COLUMBUS			
	LUCAS	156.0		
	AMHERSTBURG	225.0		
	SYLVANIA			
	BOIS BLANC	286.0		
	SPRINGVALE			
	ORISKANY			
SILURIAN	BASS ISLANDS	302.0		
	G SHALE	345.0		
	F SHALE	358.0		
	F SALT			
	E CARBONATE	399.0		
	D SALT/EQUIVALENT	422.5		
	C SHALE	436.0		
	B MARKER	453.1		
	B EQUIVALENT			
	B SALT	463.0		
	B ANHYDRITE			
	A2 CARBONATE	533.0		
	A2 SALT	581.5		
SILURIAN	A2 ANHYDRITE	596.0		
	A1 CARBONATE	597.5		
	A1 SALT			
	A1 ANHYDRITE	632.9		
	GUELPH	636.4		
	ERAMOSA			
	GOAT ISLAND	650.1		
	GASPORT/WHARTON			
	DECEW			
	ROCHESTER			
	IRONDEQUOIT			
	REYNALES/FOSSIL HILL			
	THOROLD			
	GRIMSBY			
	CABOT HEAD			
	MANITOULIN			
	WHIRLPOOL			
ORDOVICIAN	QUEENSTON			
	BLUE MOUNTAIN - GEORG. BAY			
	COLLINGWOOD			
	COBOURG			
	VERULAM			
	KIRKFIELD			
	COBOCONK			
	GULL RIVER			
	SHADOW LAKE			
	CAMBRIAN			
	PRECAMBRIAN			

GEOLOGY BY: T. R. Carter

CTY:	Lambton	TWP:	Brooke	BLK:	-	TRAC:	1-1	LOT: 26	CON: XIV
WELL NAME:	Global 3, Brooke 1-1-26-XIV			PERMIT:	7029	INIT CLASS:	DEV		
OPERATOR:	W.T. Chatham			TARGET:	DEV	CUR STATUS:	O.P.		

DRILLING DATA				DATES		COORDINATES		SAMPLES	
CONTRACTOR:	Eagle Drilling Services			PERMIT:	86-07-07	NORTH:	- m	TOP:	32.0
RIG TYPE:		DEPTHS		SPUD:	86-10-14	SOUTH:	137.2 m	BOT:	132.6
CABLE TOP:	1.3	KB ELEV:	232.3	COMPTD:	86-10-17	EAST:	- m	TRAY:	2930
BOT:	132.6	LOGGER:	132.6	OFFCNF:	87-10-17	WEST:	62.5 m		
ROTRY TOP:	-	DRILLER:	132.6	WRKOVR:	-87-06-11	LAT:	42-55-46.5		
BOT:	-	DEEP END:	-	ABNDND:	-	LONG:	81-48-16		
DRLG FLD:	-	PLUG BK:	-						

INITIAL GAS RECORD		
INTERVAL	FLOW	SIP
93.0 - 93.6	-	-
-		
-		
-		
-		
-		

CASING AND TUBING RECORD				
DIAM	WEIGHT	SET AT	HOW SET	RECOV
178	25.3	32.0	CEM	0
114	14.1	99.1	CEM	0

COMPLETION DATA	
GAS:	10³m³/d
OIL: 0.24	m³/d
SIP:	kPa
FORM: Dundee	
INTRVL: 112.8 to 115.8	m
	m
	m
PERF ☐	OPEN HOLE ☒

REMARKS

Operator had logs run using ground level as datum. Log depths reported on this well record have been corrected to KB elevation as datum. Samples lost - unable to confirm Kettle Point, Lucas, Hamilton picks.

INITIAL OIL RECORD		
INTERVAL	FLOW	DENSITY
-		
-		
-		
-		
-		

LOGGING RECORD		
INTERVAL	TYPE	COMPANY
0.0 - 129.2	GRL	COMP
0.0 - 131.4	NEUT	"
95.7 - 130.8	DENL	"
-		
-		
-		
-		

INITIAL WATER RECORD		
INTERVAL	STAT LEV	TYPE
9.1 - 10.7	-	-
31.4 - -	-	-
42.7 - -	-	-
85.3 - -	-	-
-		
-		

CORING RECORD			
INTERVAL	LOCATION	NO.	mm
-			
-			
-			
-			
-			

	GEOLOGICAL CONTACTS	TOP	ELEV	THICK
	KB / LAKE LEVEL	0.0		
	DRIFT / LAKE BOTTOM	1.3		
DEVONIAN	PORT LAMBTON			
	KETTLE POINT	21.0		
	HAMILTON	25.6		
	MARCELLUS			
	DUNDEE	100.9		
	COLUMBUS			
	LUCAS	129.8		
	AMHERSTBURG			
	SYLVANIA			
	BOIS BLANC			
	SPRINGVALE			
	ORISKANY			
SILURIAN	BASS ISLANDS			
	G SHALE			
	F SHALE			
	F SALT			
	E CARBONATE			
	D SALT/EQUIVALENT			
	C SHALE			
	B MARKER			
	B EQUIVALENT			
	B SALT			
	B ANHYDRITE			
	A2 CARBONATE			
	A2 SALT			
SILURIAN	A2 ANHYDRITE			
	A1 CARBONATE			
	A1 SALT			
	A1 ANHYDRITE			
	GUELPH			
	ERAMOSA			
	GOAT ISLAND			
	GASPORT/WHARTON			
	DECEW			
	ROCHESTER			
	IRONDEQUOIT			
	REYNALES/FOSSIL HILL			
	THOROLD			
	GRIMSBY			
	CABOT HEAD			
	MANITOULIN			
	WHIRLPOOL			
ORDOVICIAN	QUEENSTON			
	BLUE MOUNTAIN - GEORG. BAY			
	COLLINGWOOD			
	COBOURG			
	VERULAM			
	KIRKFIELD			
	COBOCONK			
	GULL RIVER			
	SHADOW LAKE			
	CAMBRIAN			
	PRECAMBRIAN			

GEOLOGY BY: T. R. Carter

CTY: Lambton	TWP: Brooke	BLK: –	TRAC: 2-1	LOT: 27	CON: XIV
WELL NAME: Global 2 Brooke 2-1-27-XIV			PERMIT: 7028	INIT CLASS: DEV	
OPERATOR: W.T. Chatham			TARGET: DEV	CUR STATUS: OP-GS	

DRILLING DATA				DATES		COORDINATES			SAMPLES	
CONTRACTOR:	Eagle Drilling Services			PERMIT:	86-07-07	NORTH:	–	m	TOP:	31.0
RIG TYPE:	ROT	DEPTHS		SPUD:	86-09-20	SOUTH:	88.1	m	BOT:	118.9
CABLE TOP:	–	KB ELEV:	233.2	COMPTD:	86-09-26	EAST:	–	m	TRAY:	6269
BOT:	–	LOGGER:	117.2	OFFCNF:	86-10-26	WEST:	217.9	m		
ROTRY TOP:	1.2	DRILLER:	117.3	WRKOVR:	–	LAT:	42-55-48			
BOT:	118.8	DEEP END:	–	ABNDND:	–	LONG:	81-48-23			
DRLG FLD:	–	PLUG BK:	–							

INITIAL GAS RECORD			CASING AND TUBING RECORD					COMPLETION DATA		
INTERVAL	FLOW	SIP	DIAM.	WEIGHT	SET AT	HOW SET	RECOV.			
115.5 – –	–	–	177.8	25.3	29.3	CEM	–	GAS:	–	10³m³/d
–			114.3	14.1	97.2	CEM	–	OIL:	4.77	m³/d
–								SIP:	–	kPa
–								FORM:	Dundee	
–								INTRVL:	115.5 –	m
–										m

INITIAL OIL RECORD			LOGGING RECORD			COMPLETION DATA
INTERVAL	FLOW	DENSITY	INTERVAL	TYPE	COMPANY	PERF ☐ OPEN HOLE ☒
115.5 – –	–	–	0 – 114.6	GRL	COMP	REMARKS
–			0 – 116.7	NEUT	"	Poor samples 102 to 115 m.
–			93.3 – 116.7	DENL	"	
–			–			
–			–			
–			–			

INITIAL WATER RECORD			CORING RECORD			
INTERVAL	STAT LEV.	TYPE	INTERVAL	LOCATION	NO.	AVAL
31.7 – –	–	FRE	–			
–			–			
–			–			
–			–			
–			–			
–			–			

GEOLOGICAL CONTACTS		TOP	ELEV	THICK		A2 ANHYDRITE			
	KB / LAKE LEVEL	0.0				A1 CARBONATE			
	DRIFT / LAKE BOTTOM	1.2				A1 SALT			
DEVONIAN	PORT LAMBTON					A1 ANHYDRITE			
	KETTLE POINT	22.9				GUELPH			
	HAMILTON	25.0				ERAMOSA			
	MARCELLUS					GOAT ISLAND			
	DUNDEE	100.6			SILURIAN	GASPORT/WIARTON			
	COLUMBUS					DECEW			
	LUCAS					ROCHESTER			
	AMHERSTBURG					IRONDEQUOIT			
	SYLVANIA					REYNALES/FOSSIL HILL			
	BOIS BLANC					THOROLD			
	SPRINGVALE					GRIMSBY			
	ORISKANY					CABOT HEAD			
SILURIAN	BASS ISLANDS					MANITOULIN			
	G SHALE					WHIRLPOOL			
	F SHALE				ORDOVICIAN	QUEENSTON			
	F SALT					BLUE MOUNTAIN - GEORG. BAY			
	E CARBONATE					COLLINGWOOD			
	D SALT/EQUIVALENT					COBOURG			
	C SHALE					VERULAM			
	B MARKER					KIRKFIELD			
	B EQUIVALENT					COBOCONK			
	B SALT					GULL RIVER			
	B ANHYDRITE					SHADOW LAKE			
	A2 CARBONATE					CAMBRIAN			
	A2 SALT					PRECAMBRIAN			

GEOLOGY BY: T. R. Carter

CTY: Lambton	TWP: Brooke	BLK: –	TRAC: 3-2	LOT: 27	CON: XIV
WELL NAME: Global 1, Brooke 3-2-27-XIV			PERMIT: 7027	INIT CLASS: DEV	
OPERATOR: W.T. Chatham			TARGET: DEV	CUR STATUS: OP-GS	

DRILLING DATA				DATES		COORDINATES			SAMPLES	
CONTRACTOR:	Eagle Drilling Services			PERMIT:	86-07-07	NORTH:	320.0	m	TOP:	33.0
RIG TYPE:	ROT	DEPTHS		SPUD:	86-09-17	SOUTH:	320.0	m	BOT:	118.9
CABLE TOP:	–	KB ELEV:	232.2	COMPTD:	86-09-18	EAST:	62.5	m	TRAY:	6269
BOT:	–	LOGGER:	117.7	OFFCNF:	86-10-18	WEST:	62.5	m		
ROTRY TOP:	1.2	DRILLER:	118.9	WRKOVR:		LAT:	42-55-41			
BOT:	117.7	DEEP END:	–	ABNDND:	–	LONG:	81-48-36			
DRLG FLD:	–	PLUG BK:	–							

INITIAL GAS RECORD			CASING AND TUBING RECORD					COMPLETION DATA		
INTERVAL	FLOW	SIP	DIAM.	WEIGHT	SET AT	HOW SET	RECOV.			
74.7 – 77.7	–	–	178	25.3	30.5	CEM	0	GAS:	–	10³m³/d
–								OIL:	2.98	m³/d
–								SIP:	–	kPa
–								FORM:	Dundee	
–								INTRVL:	118.9 –	m
–										m

INITIAL OIL RECORD			LOGGING RECORD			COMPLETION DATA
INTERVAL	FLOW	DENSITY	INTERVAL	TYPE	COMPANY	PERF ☐ OPEN HOLE ☐
118.9 – –	2.98	846	0.0 – 117.7	NEUT		REMARKS
–			76.2 – 117.7	DENL		
–			0.0 – 115.2	GRL		
–			–			
–			–			
–			–			

INITIAL WATER RECORD			CORING RECORD			
INTERVAL	STAT. LEV.	TYPE	INTERVAL	LOCATION	NO.	AVAL
118.9 – –	–	SUL	–			
–			–			
–			–			
–			–			
–			–			
–			–			

GEOLOGICAL CONTACTS		TOP	ELEV	THICK		A2 ANHYDRITE			
	KB / LAKE LEVEL	0.0				A1 CARBONATE			
	DRIFT / LAKE BOTTOM	1.2				A1 SALT			
DEVONIAN	PORT LAMBTON					A1 ANHYDRITE			
	KETTLE POINT	21.6				GUELPH			
	HAMILTON	25.6				ERAMOSA			
	MARCELLUS					GOAT ISLAND			
	DUNDEE	102.1			SILURIAN	GASPORT/WIARTON			
	COLUMBUS					DECEW			
	LUCAS					ROCHESTER			
	AMHERSTBURG					IRONDEQUOIT			
	SYLVANIA					REYNALES/FOSSIL HILL			
	BOIS BLANC					THOROLD			
	SPRINGVALE					GRIMSBY			
	ORISKANY					CABOT HEAD			
SILURIAN	BASS ISLANDS					MANITOULIN			
	G SHALE					WHIRLPOOL			
	F SHALE				ORDOVICIAN	QUEENSTON			
	F SALT					BLUE MOUNTAIN - GEORG. BAY			
	E CARBONATE					COLLINGWOOD			
	D SALT/EQUIVALENT					COBOURG			
	C SHALE					VERULAM			
	B MARKER					KIRKFIELD			
	B EQUIVALENT					COBOCONK			
	B SALT					GULL RIVER			
	B ANHYDRITE					SHADOW LAKE			
	A2 CARBONATE					CAMBRIAN			
	A2 SALT					PRECAMBRIAN			

GEOLOGY BY: T. R. Carter

CTY:	Lambton	TWP:	Dawn	BLK:	-	TRAC:	7	LOT: 18	CON: XIII
WELL NAME:	Brett, Dawn 1-7-18-XIII			PERMIT:	7026	INIT CLASS:	BD		
OPERATOR:	H. Brett and Associates Limited			TARGET:	DEV	CUR STATUS:			

DRILLING DATA				DATES		COORDINATES			SAMPLES	
CONTRACTOR:	Bothwell Drilling & Servicing			PERMIT:	86-06-20	NORTH:	-	m	TOP:	12.0
RIG TYPE:	ROT	DEPTHS		SPUD:	86-06-26	SOUTH:	237.5	m	BOT:	117.3
CABLE TOP:	-	KB ELEV:	197.0	COMPTD:	86-08-06	EAST:	233.0	m	TRAY:	476
BOT:	-	LOGGER:	-	OFFCNF:	86-09-05	WEST:	-	m		
ROTRY TOP:	1.6	DRILLER:	118.0	WRKOVR:	-	LAT:	42-40-04			
BOT:	118.0	DEEP END:	-	ABNDND:	-	LONG:	82-02-19			
DRLG FLD:	-	PLUG BK:	-							

INITIAL GAS RECORD

INTERVAL	FLOW	SIP
-		
-		
-		
-		
-		
-		

CASING AND TUBING RECORD

DIAM	WEIGHT	SET AT	HOW SET	RECOV
273	60.3	21.0	CEM	0
178	29.8	110.5	CEM	0
114	15.6	109.0	PAC	0

COMPLETION DATA

GAS: 10³m³/d
OIL: m³/d
SIP: kPa
FORM:
INTRVL: m
m
m
PERF ☐ OPEN HOLE ☐

REMARKS

INITIAL OIL RECORD

INTERVAL	FLOW	DENSITY
97.5 - 107.6	-	-
-		
-		
-		
-		

LOGGING RECORD

INTERVAL	TYPE	COMPANY
0.0 - 110.3	GRL	COMP
0.0 - 110.3	NEUT	"
-		
-		
-		
-		

INITIAL WATER RECORD

INTERVAL	STAT LEV	TYPE
81.6 - -	-	SUL
99.4 - 101.2	36.6	SUL
117.4 - 118.0	45.7	SUL
-		
-		

CORING RECORD

INTERVAL	LOCATION	NO.	ANAL
96.0 - 102.1	COM	-	N
102.1 - 108.2	COM	-	N
-			
-			

GEOLOGICAL CONTACTS		TOP	ELEV	THICK					
	KB / LAKE LEVEL	0.0				A2 ANHYDRITE			
	DRIFT / LAKE BOTTOM	1.6				A1 CARBONATE			
DEVONIAN	PORT LAMBTON					A1 SALT			
	KETTLE POINT	10.9				A1 ANHYDRITE			
	HAMILTON	11.6				GUELPH			
	MARCELLUS					ERAMOSA			
	DUNDEE	73.5				GOAT ISLAND			
	COLUMBUS	102.1			SILURIAN	GASPORT/WIARTON			
	LUCAS					DECEW			
	AMHERSTBURG					ROCHESTER			
	SYLVANIA					IRONDEQUOIT			
	BOIS BLANC					REYNALES/FOSSIL HILL			
	SPRINGVALE					THOROLD			
	ORISKANY					GRIMSBY			
SILURIAN	BASS ISLANDS					CABOT HEAD			
	G SHALE					MANITOULIN			
	F SHALE					WHIRLPOOL			
	F SALT				ORDOVICIAN	QUEENSTON			
	E CARBONATE					BLUE MOUNTAIN - GEORG BAY			
	D SALT/EQUIVALENT					COLLINGWOOD			
	C SHALE					COBOURG			
	B MARKER					VERULAM			
	B EQUIVALENT					KIRKFIELD			
	B SALT					COBOCONK			
	B ANHYDRITE					GULL RIVER			
	A2 CARBONATE					SHADOW LAKE			
	A2 SALT					CAMBRIAN			
						PRECAMBRIAN			

GEOLOGY BY: T. R. Carter

CTY:	Lambton	TWP:	Dawn	BLK:	-	TRAC:	-	LOT: 19	CON: I
WELL NAME:	Union Dawn 257, Dawn 19-I			PERMIT:	6916	INIT CLASS:	NGS		
OPERATOR:	Union Gas Limited			TARGET:	SAL	CUR STATUS:	NGS		

DRILLING DATA				DATES		COORDINATES			SAMPLES	
CONTRACTOR:	James Newport Drilling			PERMIT:	85-11-07	NORTH:	196.3	m	TOP:	21
RIG TYPE:	CAB	DEPTHS		SPUD:	86-01-07	SOUTH:	-	m	BOT:	543
CABLE TOP:	1.4	KB ELEV:	189.9	COMPTD:	86-03-06	EAST:	367.8	m	TRAY:	8396
BOT:	543.2	LOGGER:	543.2	OFFCNF:	86-04-05	WEST:	-	m		
ROTRY TOP:	-	DRILLER:	543.2	WRKOVR:	-	LAT:	42-40-37			
BOT:	-	DEEP END:	-	ABNDND:	-	LONG:	82-14-21			
DRLG FLD:	-	PLUG BK:	-							

INITIAL GAS RECORD

INTERVAL	FLOW	SIP
-		
-		
-		
-		
-		
-		

CASING AND TUBING RECORD

DIAM	WEIGHT	SET AT	HOW SET	RECOV
340	71.4	22.0	SHO	0
273	60.3	146.4	SHO	124.9
219	35.7	372.7	CEM	0
178	29.8	481.2	CEM	0

COMPLETION DATA

GAS: 10³m³/d
OIL: m³/d
SIP: kPa
FORM:
INTRVL: m
m
m
PERF ☐ OPEN HOLE ☐

REMARKS

Pinnacle Reef

INITIAL OIL RECORD

INTERVAL	FLOW	DENSITY
-		
-		
-		
-		
-		

LOGGING RECORD

INTERVAL	TYPE	COMPANY
0.0 - 541.0	GRL	COM
0.0 - 543.0	NEUT	"
481.2 - 543.0	DENL	"
6.0 - 465.7	CBND	"
-		
-		

INITIAL WATER RECORD

INTERVAL	STAT LEV	TYPE
-		
-		
-		
-		
-		

CORING RECORD

INTERVAL	LOCATION	NO.	ANAL
-			
-			
-			
-			
-			

GEOLOGICAL CONTACTS		TOP	ELEV	THICK					
	KB / LAKE LEVEL	0				A2 ANHYDRITE			
	DRIFT / LAKE BOTTOM	1.4				A1 CARBONATE			
DEVONIAN	PORT LAMBTON					A1 SALT			
	KETTLE POINT	22.4				A1 ANHYDRITE			
	HAMILTON	78.8				GUELPH	481.8		
	MARCELLUS					ERAMOSA			
	DUNDEE	145.1				GOAT ISLAND			
	COLUMBUS				SILURIAN	GASPORT/WIARTON			
	LUCAS	169.8				DECEW			
	AMHERSTBURG	220.0				ROCHESTER			
	SYLVANIA					IRONDEQUOIT			
	BOIS BLANC	294.0				REYNALES/FOSSIL HILL			
	SPRINGVALE					THOROLD			
	ORISKANY					GRIMSBY			
SILURIAN	BASS ISLANDS	322.5				CABOT HEAD			
	G SHALE	359.0				MANITOULIN			
	F SHALE	365.5				WHIRLPOOL			
	F SALT				ORDOVICIAN	QUEENSTON			
	E CARBONATE	405.9				BLUE MOUNTAIN - GEORG BAY			
	D SALT/EQUIVALENT					COLLINGWOOD			
	C SHALE	430.2				COBOURG			
	B MARKER	441.1				VERULAM			
	B EQUIVALENT	446.6				KIRKFIELD			
	B SALT					COBOCONK			
	B ANHYDRITE					GULL RIVER			
	A2 CARBONATE	460.8				SHADOW LAKE			
	A2 SALT					CAMBRIAN			
						PRECAMBRIAN			

GEOLOGY BY: T. R. Carter

CTY: Lambton	TWP: Dawn	BLK: -	TRAC: -	LOT: 19	CON: I
WELL NAME: Union Dawn 258, Dawn 19-I		PERMIT: 6785		INIT CLASS: NGS	
OPERATOR: Union Gas Limited		TARGET: SAL		CUR STATUS: NGS	

DRILLING DATA				DATES		COORDINATES			SAMPLES	
CONTRACTOR:	James Newport Drilling			PERMIT:	86-06-05	NORTH:	160.0	m	TOP:	23.0
RIG TYPE:	CAB	DEPTHS		SPUD:	86-01-13	SOUTH:	-	m	BOT:	543
CABLE TOP:	1.5	KB ELEV:	190.2	COMPTD:	86-03-12	EAST:	557.7	m	TRAY:	6866
BOT:	543.0	LOGGER:	541.5	OFFCNF:	86-04-11	WEST:	-	m		
ROTRY TOP:	-	DRILLER:	543.0	WRKOVR:	-	LAT:	42-40-35			
BOT:	-	DEEP END:	-	ABNDND:	-	LONG:	82-14-14			
DRLG FLD:	-	PLUG BK:	-							

INITIAL GAS RECORD

INTERVAL	FLOW	SIP
152 – 153	-	-
464 – 467	-	-
495 – 541.5	-	-
–		
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CASING AND TUBING RECORD

DIAM	WEIGHT	SET AT	HOW SET	RECOV
340	71.4	23.2	SHO	0
273	60.3	147.0	SHO	24.9
219	35.7	374.1	CEM	-
178	29.8	486.5	CEM	-

COMPLETION DATA

GAS:	-	$10^3 m^3/d$
OIL:	-	m^3/d
SIP:	-	kPa
FORM:	Guelph	
INTRVL:	495.0 - 541.5	m
		m
		m

PERF ☐ OPEN HOLE ☐

INITIAL OIL RECORD

INTERVAL	FLOW	DENSITY
–		
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LOGGING RECORD

INTERVAL	TYPE	COMPANY
0.0 – 539.1	GRL	COM GEAR.
0.0 – 541.3	NEUT	"
486.5 – 541.0	DENL	"
9.0 – 355.0	CBND	"
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REMARKS

Pinnacle reef.
Open hole completion.

INITIAL WATER RECORD

INTERVAL	STAT. LEV	TYPE
22.0 – -	-	FRE
152 – 153	-	SUL
180 – 183	38.0	SUL
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CORING RECORD

INTERVAL	LOCATION	NO.	mm
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	GEOLOGICAL CONTACTS	TOP	ELEV	THICK
	KB / LAKE LEVEL	0		
	DRIFT / LAKE BOTTOM	1.5		
DEVONIAN	PORT LAMBTON			
	KETTLE POINT	22.4		
	HAMILTON	77.8		
	MARCELLUS			
	DUNDEE	145.9		
	COLUMBUS			
	LUCAS	168.0		
	AMHERSTBURG	234.0		
	SYLVANIA			
	BOIS BLANC	296.0		
	SPRINGVALE			
	ORISKANY			
SILURIAN	BASS ISLANDS	325.5		
	G SHALE	364.2		
	F SHALE	370.8		
	F SALT			
	E CARBONATE	410.8		
	D SALT/EQUIVALENT	431.8		
	C SHALE	435.9		
	B MARKER	447.0		
	B EQUIVALENT	452.9		
	B SALT			
	B ANHYDRITE			
	A2 CARBONATE	464.5		
	A2 SALT			
SILURIAN	A2 ANHYDRITE	486.6		
	A1 CARBONATE			
	A1 SALT			
	A1 ANHYDRITE			
	GUELPH	489.0		
	ERAMOSA			
	GOAT ISLAND			
	GASPORT/WIARTON			
	DECEW			
	ROCHESTER			
	IRONDEQUOIT			
	REYNALES/FOSSIL HILL			
	THOROLD			
	GRIMSBY			
	CABOT HEAD			
	MANITOULIN			
	WHIRLPOOL			
ORDOVICIAN	QUEENSTON			
	BLUE MOUNTAIN - GEORG. BAY			
	COLLINGWOOD			
	COBOURG			
	VERULAM			
	KIRKFIELD			
	COBOCONK			
	GULL RIVER			
	SHADOW LAKE			
	CAMBRIAN			
	PRECAMBRIAN			

GEOLOGY BY: T. R. Carter

CTY: Lambton	TWP: Dawn	BLK: -	TRAC: 7	LOT: 20	CON: III
WELL NAME: Ram #91 Dawn 7-20-III		PERMIT: 6983		INIT CLASS: NPW	
OPERATOR: Ram Petroleum's Ltd.		TARGET: ORD		CUR STATUS: GS - OBS	

DRILLING DATA				DATES		COORDINATES			SAMPLES	
CONTRACTOR:	Corunna Drilling Ltd.			PERMIT:	86-02-05	NORTH:	-	m	TOP:	77
RIG TYPE:	ROT	DEPTHS		SPUD:	86-02-06	SOUTH:	195.1	m	BOT:	1201
CABLE TOP:	-	KB ELEV:	195.3	COMPTD:	86-02-18	EAST:	106.7	m	TRAY:	9132-3
BOT:	-	LOGGER:	1202.0	OFFCNF:	87-02-18	WEST:	-	m		
ROTRY TOP:	3.7	DRILLER:	1202.0	WRKOVR:	-	LAT:	42-41-01			
BOT:	1202.0	DEEP END:	-	ABNDND:	-	LONG:	82-12-29			
DRLG FLD:	BRINE	PLUG BK:	1180.2							

INITIAL GAS RECORD

INTERVAL	FLOW	SIP
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CASING AND TUBING RECORD

DIAM	WEIGHT	SET AT	HOW SET	RECOV
299	62.5	75.0	CEM	0
220	35.7	585.5	CEM	0
114	14.1	1200.0	CEM	0

COMPLETION DATA

GAS:	1.41	$10^3 m^3/d$
OIL:	-	m^3/d
SIP:	-	kPa
FORM:	Coboconk	
INTRVL:	1063.0-1067.0	m
		m
		m

PERF ☒ OPEN HOLE ☐

INITIAL OIL RECORD

INTERVAL	FLOW	DENSITY
–		
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–		
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LOGGING RECORD

INTERVAL	TYPE	COMPANY
1021.0 – 1099.0	CMPL	SCH
440.0 – 1201.0	CBND	"
64.5 – 1192.0	GRL	"
64.5 – 1194.2	CNL	"
74.0 – 1201.0	LDT	"
74.0 – 1197.0	LATL	"
74.0 – 1201.0	MSFL	"

REMARKS

440.0-1201.0	SONL	SCH
74.0-1195.0	CBLK	"

INITIAL WATER RECORD

INTERVAL	STAT. LEV	TYPE
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CORING RECORD

INTERVAL	LOCATION	NO.	mm
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	GEOLOGICAL CONTACTS	TOP	ELEV	THICK
	KB / LAKE LEVEL	0		
	DRIFT / LAKE BOTTOM	3.7		
DEVONIAN	PORT LAMBTON			
	KETTLE POINT	77.0		
	HAMILTON	101.3		
	MARCELLUS			
	DUNDEE	190.6		
	COLUMBUS			
	LUCAS	215.0		
	AMHERSTBURG	299.0		
	SYLVANIA			
	BOIS BLANC	350.0		
	SPRINGVALE			
	ORISKANY			
SILURIAN	BASS ISLANDS	365.0		
	G SHALE	408.4		
	F SHALE	414.8		
	F SALT			
	E CARBONATE	458.3		
	D SALT/EQUIVALENT			
	C SHALE	486.0		
	B MARKER	498.3		
	B EQUIVALENT	504.3		
	B SALT			
	B ANHYDRITE	513.2		
	A2 CARBONATE	516.8		
	A2 SALT	556.2		
SILURIAN	A2 ANHYDRITE	566.0		
	A1 CARBONATE	568.0		
	A1 SALT			
	A1 ANHYDRITE	601.2		
	GUELPH	606.0		
	ERAMOSA			
	GOAT ISLAND	613.3		
	GASPORT/WIARTON	624.1		
	DECEW			
	ROCHESTER	641.9		
	IRONDEQUOIT			
	REYNALES/FOSSIL HILL	654.5		
	THOROLD			
	GRIMSBY			
	CABOT HEAD	659.6		
	MANITOULIN	687.4		
	WHIRLPOOL			
ORDOVICIAN	QUEENSTON	697.5		
	BLUE MOUNTAIN - GEORG. BAY	791.0		
	COLLINGWOOD			
	COBOURG	907.0		
	VERULAM			
	KIRKFIELD			
	COBOCONK	1045.7		
	GULL RIVER			
	SHADOW LAKE	1183.3		
	CAMBRIAN			
	PRECAMBRIAN	1192.0		

GEOLOGY BY: T. R. Carter

CTY:	Lambton	TWP:	Dawn	BLK:	-	TRAC:	8	LOT: 25	CON: XIII
WELL NAME	Union Gas No.118-H. Wright No.1, Dawn 8-25-XIII			PERMIT:	6963			INIT CLASS:	DPT
OPERATOR:	Forbes Resources Inc.			TARGET:	SAL			CUR STATUS:	OSGS-ABD

DRILLING DATA		DEPTHS		DATES		COORDINATES		SAMPLES	
CONTRACTOR:	Charles W. Rose			PERMIT:	86-01-06	NORTH:	143.2 m	TOP:	555.0
RIG TYPE:	CAB			SPUD:	86-01-20	SOUTH:	- m	BOT:	561.7
CABLE TOP:	555.0	KB ELEV:	204.5	COMPTD:	86-02-26	EAST:	315.6 m	TRAY:	1163-64
BOT:	561.7	LOGGER:	560.8	OFFCNF:	87-02-26	WEST:	- m		
ROTRY TOP:	-	DRILLER:	561.7	WRKOVR:	-	LAT:	42-42-15		
BOT:	-	DEEP END:	-	ABNDND:	86-07-23	LONG:	82-02-12		
DRLG FLD:	-	PLUG BK:	-						

INITIAL GAS RECORD

INTERVAL	FLOW	SIP
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CASING AND TUBING RECORD

DIAM.	WEIGHT	SET AT	HOW SET	RECOV
244	-	18.9	SHO	18.9
219	-	131.7	SHO	131.7
114	-	561.1	CEM	448.0
60	-	558.7	-	558.7

COMPLETION DATA

GAS: $10^3 m^3/d$
OIL: m^3/d
SIP: kPa
FORM:
INTRVL: m
m
m
PERF ☒ OPEN HOLE ☐

INITIAL OIL RECORD

INTERVAL	FLOW	DENSITY
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—		
—		
—		
—		

LOGGING RECORD

INTERVAL	TYPE	COMPANY
490.1 – 559.6	GRL	COM
491.3 – 560.8	NEUT	"
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REMARKS

Re-opening of Union Gas #118 Wright #1. Deepened from 555.0

INITIAL WATER RECORD

INTERVAL	STAT LEV	TYPE
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CORING RECORD

INTERVAL	LOCATION	NO.	mm
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	GEOLOGICAL CONTACTS	TOP	ELEV	THICK
	KB / LAKE LEVEL	0		
	DRIFT / LAKE BOTTOM	0.9		
DEVONIAN	PORT LAMBTON			
	KETTLE POINT			
	HAMILTON			
	MARCELLUS			
	DUNDEE			
	COLUMBUS			
	LUCAS			
	AMHERSTBURG			
	SYLVANIA			
	BOIS BLANC			
	SPRINGVALE			
	ORISKANY			
SILURIAN	BASS ISLANDS			
	G SHALE			
	F SHALE			
	F SALT			
	E CARBONATE			
	D SALT/EQUIVALENT			
	C SHALE			
	B MARKER			
	B EQUIVALENT			
	B SALT			
	B ANHYDRITE			
	A2 CARBONATE			
	A2 SALT			
SILURIAN	A2 ANHYDRITE	504.7		
	A1 CARBONATE	506.3		
	A1 SALT			
	A1 ANHYDRITE	543.2		
	GUELPH	547.4		
	ERAMOSA			
	GOAT ISLAND	555.6		
	GASPORT/WIARTON			
	DECEW			
	ROCHESTER			
	IRONDEQUOIT			
	REYNALES/FOSSIL HILL			
	THOROLD			
	GRIMSBY			
	CABOT HEAD			
	MANITOULIN			
	WHIRLPOOL			
ORDOVICIAN	QUEENSTON			
	BLUE MOUNTAIN - GEORG BAY			
	COLLINGWOOD			
	COBOURG			
	VERULAM			
	KIRKFIELD			
	COBOCONK			
	GULL RIVER			
	SHADOW LAKE			
	CAMBRIAN			
	PRECAMBRIAN			

GEOLOGY BY T. R. Carter

CTY:	Lambton	TWP:	Enniskillen	BLK:	-	TRAC:	3	LOT: 14	CON: IX
WELL NAME	Bender 17 Disposal, Enniskillen 3-14-IX			PERMIT:	6993			INIT CLASS:	BD
OPERATOR:	Harold Bender			TARGET:	DEV			CUR STATUS:	LOST-ABD

DRILLING DATA		DEPTHS		DATES		COORDINATES		SAMPLES	
CONTRACTOR:	Harold Bender			PERMIT:	86-02-27	NORTH:	- m	TOP:	24.7m
RIG TYPE:	Cable			SPUD:	86-06-07	SOUTH:	336.0 m	BOT:	135.6m
CABLE TOP:	0 m	KB ELEV:	-	COMPTD:	86-08-27	EAST:	144.8 m	TRAY:	5639
BOT:	137.0 m	LOGGER:	-	OFFCNF:	86-08-26	WEST:	- m		
ROTRY TOP:	-	DRILLER:	137.0m	WRKOVR:	-	LAT:	42-52-00		
BOT:	-	DEEP END:	-	ABNDND:	86-11-07	LONG:	82-08-15		
DRLG FLD:	-	PLUG BK:	-						

INITIAL GAS RECORD

INTERVAL	FLOW	SIP
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CASING AND TUBING RECORD

DIAM.	WEIGHT	SET AT	HOW SET	RECOV
219.	-	29.0	SHO	29.0
177.8	-	70.0	SHO	70.0

COMPLETION DATA

GAS: $10^3 m^3/d$
OIL: m^3/d
SIP: kPa
FORM:
INTRVL: m
m
m
PERF ☐ OPEN HOLE ☐

INITIAL OIL RECORD

INTERVAL	FLOW	DENSITY
16.0 —		
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—		
—		
—		

LOGGING RECORD

INTERVAL	TYPE	COMPANY
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REMARKS

Tool lost in hole - abandoned

INITIAL WATER RECORD

INTERVAL	STAT LEV	TYPE
16.0 —		FR
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CORING RECORD

INTERVAL	LOCATION	NO.	mm
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	GEOLOGICAL CONTACTS	TOP	ELEV	THICK
	KB / LAKE LEVEL	C.0		
	DRIFT / LAKE BOTTOM	0.0		
DEVONIAN	PORT LAMBTON			
	KETTLE POINT			
	HAMILTON	24.4		
	MARCELLUS			
	DUNDEE	100.6		
	COLUMBUS			
	LUCAS	128.0		
	AMHERSTBURG			
	SYLVANIA			
	BOIS BLANC			
	SPRINGVALE			
	ORISKANY			
SILURIAN	BASS ISLANDS			
	G SHALE			
	F SHALE			
	F SALT			
	E CARBONATE			
	D SALT/EQUIVALENT			
	C SHALE			
	B MARKER			
	B EQUIVALENT			
	B SALT			
	B ANHYDRITE			
	A2 CARBONATE			
	A2 SALT			
SILURIAN	A2 ANHYDRITE			
	A1 CARBONATE			
	A1 SALT			
	A1 ANHYDRITE			
	GUELPH			
	ERAMOSA			
	GOAT ISLAND			
	GASPORT/WIARTON			
	DECEW			
	ROCHESTER			
	IRONDEQUOIT			
	REYNALES/FOSSIL HILL			
	THOROLD			
	GRIMSBY			
	CABOT HEAD			
	MANITOULIN			
	WHIRLPOOL			
ORDOVICIAN	QUEENSTON			
	BLUE MOUNTAIN - GEORG BAY			
	COLLINGWOOD			
	COBOURG			
	VERULAM			
	KIRKFIELD			
	COBOCONK			
	GULL RIVER			
	SHADOW LAKE			
	CAMBRIAN			
	PRECAMBRIAN			

GEOLOGY BY T.R. Carter

CTY: Lambton TWP: Enniskillen BLK: - TRAC: 7 LOT: 15 CON: II
WELL NAME: Brett, Enniskillen 7-15-II PERMIT: 7046 INIT CLASS: DEV
OPERATOR: H. Brett & Associates Ltd. TARGET: SAL CUR STATUS: DH-ABD

DRILLING DATA				DATES		COORDINATES			SAMPLES	
CONTRACTOR:				PERMIT:	86-09-09	NORTH:	228.6	m	TOP:	21
RIG TYPE:	CAB	DEPTHS		SPUD:	86-09-25	SOUTH:	-	m	BOT:	614
CABLE TOP:	1.2	KB ELEV:	201.4	COMPTD:	86-10-24	EAST:	106.7	m	TRAY:	6510
BOT:	614.0	LOGGER:	-	OFFCNF:	86-10-30	WEST:	-	m		
ROTRY TOP:	-	DRILLER:	614,0	WRKOVR:	-	LAT:	42-46-27			
BOT:	-	DEEP END:	-	ABNDND:	-	LONG:	82-08-01			
DRLG FLD:	-	PLUG BK:	-							

INITIAL GAS RECORD

INTERVAL	FLOW	SIP
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CASING AND TUBING RECORD

DIAM.	WEIGHT	SET AT	HOW SET	RECOV
273	60,3	22,3	SHO	22.3
219	35,7	97,1	PAC	90.2
178	29,8	328,9	CEM	82.8

COMPLETION DATA

GAS: $10^3 m^3/d$
OIL: m^3/d
SIP: kPa
FORM:
INTRVL: m
m
m
PERF ☐ OPEN HOLE ☐

INITIAL OIL RECORD

INTERVAL	FLOW	DENSITY
21.0 – -	-	-
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–		
–		
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LOGGING RECORD

INTERVAL	TYPE	COMPANY
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REMARKS

INITIAL WATER RECORD

INTERVAL	STAT LEV	TYPE
21.0 – 28.0	10.8	FRE
139.0 – -	44.8	SUL
612.0 – -	536.8	SAL
–		
–		
–		

CORING RECORD

INTERVAL	LOCATION	NO.	mm
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–			
–			
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–			
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–			

GEOLOGICAL CONTACTS		TOP	ELEV	THICK
	KB / LAKE LEVEL	0.0		
	DRIFT / LAKE BOTTOM	1.2		
DEVONIAN	PORT LAMBTON			
	KETTLE POINT			
	HAMILTON	21.0		
	MARCELLUS			
	DUNDEE	94.0		
	COLUMBUS			
	LUCAS	118.0		
	AMHERSTBURG	194.0		
	SYLVANIA			
	BOIS BLANC	243.5		
	SPRINGVALE			
	ORISKANY			
SILURIAN	BASS ISLANDS	264.5		
	G SHALE	314.5		
	F SHALE	322.0		
	F SALT			
	E CARBONATE	366.0		
	D SALT/EQUIVALENT	390.0		
	C SHALE	400.5		
	B MARKER	414.0		
	B EQUIVALENT			
	B SALT	422.0		
	B ANHYDRITE			
	A2 CARBONATE	503.0		
	A2 SALT	544.0		

SILURIAN	A2 ANHYDRITE			
	A1 CARBONATE	563.0		
	A1 SALT			
	A1 ANHYDRITE	601.5		
	GUELPH	603.5		
	ERAMOSA			
	GOAT ISLAND	613.0		
	GASPORT/WIARTON			
	DECEW			
	ROCHESTER			
	IRONDEQUOIT			
	REYNALES/FOSSIL HILL			
	THOROLD			
	GRIMSBY			
	CABOT HEAD			
	MANITOULIN			
	WHIRLPOOL			
ORDOVICIAN	QUEENSTON			
	BLUE MOUNTAIN - GEORG. BAY			
	COLLINGWOOD			
	COBOURG			
	VERULAM			
	KIRKFIELD			
	COBOCONK			
	GULL RIVER			
	SHADOW LAKE			
	CAMBRIAN			
	PRECAMBRIAN			

GEOLOGY BY: T. R. Carter

CTY: Lambton TWP: Enniskillen BLK: - TRAC: 3 LOT: 18 CON: II
WELL NAME: Imperial 838 Fairbank Disposal, Enniskillen 3-18-II PERMIT: 7054 INIT CLASS: BD
OPERATOR: Charles Fairbank Oil Properties TARGET: DEV CUR STATUS: BD

DRILLING DATA				DATES		COORDINATES			SAMPLES	
CONTRACTOR:	Eagle Drilling Services Inc.			PERMIT:	86-10-17	NORTH:	717.5	m	TOP:	152.4
RIG TYPE:	ROT	DEPTHS		SPUD:	86-10-27	SOUTH:	-	m	BOT:	173.7
CABLE TOP:	-	KB ELEV:	201.9	COMPTD:	86-10-28	EAST:	202.4	m	TRAY:	4482
BOT:	-	LOGGER:	183.2	OFFCNF:	86-11-27	WEST:	-	m		
ROTRY TOP:	121.9	DRILLER:	182.9	WRKOVR:	-	LAT:	42-46-42			
BOT:	182.9	DEEP END:	-	ABNDND:	-	LONG:	82-06-35			
DRLG FLD:	WATER	PLUG BK:	-							

INITIAL GAS RECORD

INTERVAL	FLOW	SIP
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CASING AND TUBING RECORD

DIAM	WEIGHT	SET AT	HOW SET	RECOV
219.1	35.7	23.8	-	23.8
117.8	29.8	87.8	CEM	0
114.3	14.1	128.1	CEM	0

COMPLETION DATA

GAS: $10^3 m^3/d$
OIL: m^3/d
SIP: kPa
FORM:
INTRVL: m
m
m
PERF ☐ OPEN HOLE ☒

INITIAL OIL RECORD

INTERVAL	FLOW	DENSITY
112.8 – 125.0	-	-
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–		
–		
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LOGGING RECORD

INTERVAL	TYPE	COMPANY
0 – 181.7	GRL	COMP
0 – 183.2	NEUT	"
88.4 – 183.2	DENL	"
134.1 – 141.7	PRMS	"
–		
–		
–		

REMARKS

Deepening of Imperial 838 for disposal, from 121.9

INITIAL WATER RECORD

INTERVAL	STAT LEV	TYPE
137.0 – -	43.9	SUL
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–		

CORING RECORD

INTERVAL	LOCATION	NO.	mm
87.5 – 122.1	-	-	-
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GEOLOGICAL CONTACTS		TOP	ELEV	THICK
	KB / LAKE LEVEL	0.0		
	DRIFT / LAKE BOTTOM	1.2		
DEVONIAN	PORT LAMBTON			
	KETTLE POINT			
	HAMILTON	20.4		
	MARCELLUS			
	DUNDEE	70.1		
	COLUMBUS			
	LUCAS	96.0		
	AMHERSTBURG			
	SYLVANIA			
	BOIS BLANC			
	SPRINGVALE			
	ORISKANY			
SILURIAN	BASS ISLANDS			
	G SHALE			
	F SHALE			
	F SALT			
	E CARBONATE			
	D SALT/EQUIVALENT			
	C SHALE			
	B MARKER			
	B EQUIVALENT			
	B SALT			
	B ANHYDRITE			
	A2 CARBONATE			
	A2 SALT			

SILURIAN	A2 ANHYDRITE			
	A1 CARBONATE			
	A1 SALT			
	A1 ANHYDRITE			
	GUELPH			
	ERAMOSA			
	GOAT ISLAND			
	GASPORT/WIARTON			
	DECEW			
	ROCHESTER			
	IRONDEQUOIT			
	REYNALES/FOSSIL HILL			
	THOROLD			
	GRIMSBY			
	CABOT HEAD			
	MANITOULIN			
	WHIRLPOOL			
ORDOVICIAN	QUEENSTON			
	BLUE MOUNTAIN - GEORG. BAY			
	COLLINGWOOD			
	COBOURG			
	VERULAM			
	KIRKFIELD			
	COBOCONK			
	GULL RIVER			
	SHADOW LAKE			
	CAMBRIAN			
	PRECAMBRIAN			

GEOLOGY BY: T. R. Carter

CTY:	Lambton	TWP:	Enniskillen	BLK:		TRAC:	8	LOT:	8	CON:	XIII
WELL NAME	C.R. Disposal, Enniskillen 2-8-8-XIII			PERMIT:	6973			INIT CLASS:	BD		
OPERATOR	Cartier Resources Inc.			TARGET:	DEV			CUR STATUS:	BD		

DRILLING DATA				DATES		COORDINATES			SAMPLES	
CONTRACTOR:	Frank Vye			PERMIT:	86-01-29	NORTH:	185.6	m	TOP:	34.0
RIG TYPE:	CAB	DEPTHS		SPUD:	86-02-11	SOUTH:	-	m	BOT:	196.6
CABLE TOP:	0.3	KB ELEV:	205.7	COMPTD:	86-05-10	EAST:	-	m	TRAY:	6971.
BOT:	198.1	LOGGER:	-	OFFCNF:	86-06-09	WEST:	254.0	m		
ROTRY TOP:	-	DRILLER:	198.1	WRKOVR:	-	LAT:	42-54-33			
BOT:	-	DEEP END:	-	ABNDND:	-	LONG:	82-10-45			
DRLG FLD:	-	PLUG BK:	-							

INITIAL GAS RECORD

INTERVAL	FLOW	BHP
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CASING AND TUBING RECORD

DIAM	WEIGHT	SET AT	HOW SET	RECOV
178	-	36.6	CEM	0
114	-	153.9	CEM	0
60	-	146.3	PAC	0

COMPLETION DATA

GAS:	$10^3 m^3/d$
OIL:	m^3/d
BHP:	kPa
FORM:	
INTRVL:	m
	m
	m
PERF ☐	OPEN HOLE ☐

INITIAL OIL RECORD

INTERVAL	FLOW	DENSITY
128.0 – 146.3	0.3	-
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LOGGING RECORD

INTERVAL	TYPE	COMPANY
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REMARKS

Injected 63.6 m³ in 60 minutes from 155.4 to 198.1 m.

INITIAL WATER RECORD

INTERVAL	STAT LEV	TYPE
155.4 – 198.1	-	SUL
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CORING RECORD

INTERVAL	LOCATION	NO.	mm
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	GEOLOGICAL CONTACTS	TOP	ELEV	THICK
	KB / LAKE LEVEL	0.0		
	DRIFT / LAKE BOTTOM	0.3		
DEVONIAN	PORT LAMBTON			
	KETTLE POINT			
	HAMILTON	34.1		
	MARCELLUS			
	DUNDEE	106.0		
	COLUMBUS			
	LUCAS	129.5		
	AMHERSTBURG			
	SYLVANIA			
	BOIS BLANC			
	SPRINGVALE			
	ORISKANY			
SILURIAN	BASS ISLANDS			
	G SHALE			
	F SHALE			
	F SALT			
	E CARBONATE			
	D SALT/EQUIVALENT			
	C SHALE			
	B MARKER			
	B EQUIVALENT			
	B SALT			
	B ANHYDRITE			
	A2 CARBONATE			
	A2 SALT			

SILURIAN	A2 ANHYDRITE			
	A1 CARBONATE			
	A1 SALT			
	A1 ANHYDRITE			
	GUELPH			
	ERAMOSA			
	GOAT ISLAND			
	GASPORT/WHARTON			
	DECEW			
	ROCHESTER			
	IRONDEQUOIT			
	REYNALES/FOSSIL HILL			
	THOROLD			
	GRIMSBY			
	CABOT HEAD			
	MANITOULIN			
	WHIRLPOOL			
ORDOVICIAN	QUEENSTON			
	BLUE MOUNTAIN - GEORG. BAY			
	COLLINGWOOD			
	COBOURG			
	VERULAM			
	KIRKFIELD			
	COBOCONK			
	GULL RIVER			
	SHADOW LAKE			
	CAMBRIAN			
	PRECAMBRIAN			

GEOLOGY BY T. R. Carter

CTY:	Lambton	TWP:	Euphemia	BLK:	-	TRAC:	4	LOT:	34	CON:	II
WELL NAME	Springs, Euphemia 4-34-II			PERMIT:	6967			INIT CLASS:	NFW		
OPERATOR	Springs Drilling Limited			TARGET:	SAL			CUR STATUS:	DH-ABD		

DRILLING DATA				DATES		COORDINATES			SAMPLES	
CONTRACTOR:	Eagle Drilling Services Inc.			PERMIT:	86-01-17	NORTH:	202.1	m	TOP:	23
RIG TYPE:	CAB/ROT	DEPTHS		SPUD:	86-01-28	SOUTH:	-	m	BOT:	571
CABLE TOP:	327.6	KB ELEV:	206.1	COMPTD:	86-03-04	EAST:	-	m	TRAY:	7027
BOT:	571.0	LOGGER:	-	OFFCNF:	87-03-04	WEST:	374.0	m		
ROTRY TOP:	1.3	DRILLER:	571.0	WRKOVR:	-	LAT:	42-45-07			
BOT:	327.6	DEEP END:	-	ABNDND:	86-03-07	LONG:	81-59-05			
DRLG FLD:	-	PLUG BK:	-							

INITIAL GAS RECORD

INTERVAL	FLOW	BHP
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CASING AND TUBING RECORD

DIAM	WEIGHT	SET AT	HOW SET	RECOV.
244	-	48.1	CEM	0
178	-	327.6	CEM	250.2

COMPLETION DATA

GAS:	$10^3 m^3/d$
OIL:	m^3/d
BHP:	kPa
FORM:	
INTRVL:	m
	m
	m
PERF ☐	OPEN HOLE ☐

INITIAL OIL RECORD

INTERVAL	FLOW	DENSITY
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LOGGING RECORD

INTERVAL	TYPE	COMPANY
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REMARKS

Rotary rig from surface to 327.6 (Eagle), cable tool to TD (Circle A Drilling).

INITIAL WATER RECORD

INTERVAL	STAT LEV	TYPE
12.0 – 14.0	-	FRE
154.0 – 168.0	-	SUL
542.5 – 544.0	-	SAL
554.0 – 556.0	-	SAL
–		
–		

CORING RECORD

INTERVAL	LOCATION	NO.	mm
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	GEOLOGICAL CONTACTS	TOP	ELEV	THICK
	KB / LAKE LEVEL	0		
	DRIFT / LAKE BOTTOM	1.3		
DEVONIAN	PORT LAMBTON			
	KETTLE POINT	22.5		
	HAMILTON	37.5		
	MARCELLUS			
	DUNDEE	110.0		
	COLUMBUS	139.5		
	LUCAS	141.5		
	AMHERSTBURG	207.5		
	SYLVANIA			
	BOIS BLANC	260.0		
	SPRINGVALE			
	ORISKANY			
SILURIAN	BASS ISLANDS	280.5		
	G SHALE	317.5		
	F SHALE	325.0		
	F SALT			
	E CARBONATE	361.0		
	D SALT/EQUIVALENT	382.0		
	C SHALE	386.0		
	B MARKER	403.0		
	B EQUIVALENT			
	B SALT	407.0		
	B ANHYDRITE			
	A2 CARBONATE	476.0		
	A2 SALT			

SILURIAN	A2 ANHYDRITE	512.5		
	A1 CARBONATE	515.0		
	A1 SALT			
	A1 ANHYDRITE			
	GUELPH	539.5		
	ERAMOSA			
	GOAT ISLAND	561.0		
	GASPORT/WHARTON	565.5		
	DECEW			
	ROCHESTER			
	IRONDEQUOIT			
	REYNALES/FOSSIL HILL			
	THOROLD			
	GRIMSBY			
	CABOT HEAD			
	MANITOULIN			
	WHIRLPOOL			
ORDOVICIAN	QUEENSTON			
	BLUE MOUNTAIN - GEORG. BAY			
	COLLINGWOOD			
	COBOURG			
	VERULAM			
	KIRKFIELD			
	COBOCONK			
	GULL RIVER			
	SHADOW LAKE			
	CAMBRIAN			
	PRECAMBRIAN			

GEOLOGY BY T. R. Carter

CTY:	Lambton	TWP:	Moore	BLK:	-	TRAC:	4	LOT: 18	CON: VII
WELL NAME:	Tec. Kim-Col S1. Moore 4-18-VII			PERMIT:	7016	INIT CLASS:	NGS		
OPERATOR:	Tecumseh Gas Storage Ltd.			TARGET:	SAL	CUR STATUS:	NGS		

DRILLING DATA				DATES		COORDINATES			SAMPLES	
CONTRACTOR:	James Newport			PERMIT:	86-04-25	NORTH:	698,6	m	TOP:	64
RIG TYPE:	ROT/CAB	DEPTHS		SPUD:	86-05-30	SOUTH:	-	m	BOT:	680
CABLE TOP:	604,0	KB ELEV:	196,6	COMPTD:	86-07-15	EAST:	-	m	TRAY:	8652
BOT:	680,0	LOGGER:	678,3	OFFCNF:	86-08-14	WEST:	39,6	m		
ROTRY TOP:	3,0	DRILLER:	680,0	WRKOVR:	-	LAT:	42-50-39			
BOT:	604.0	DEEP END:	-	ABNDND:	-	LONG:	82-21-53			
DRLG FLD:	-	PLUG BK:	-							

INITIAL GAS RECORD

INTERVAL	FLOW	SIP
610,0 – 678,3	-	-
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–		
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–		

CASING AND TUBING RECORD

DIAM	WEIGHT	SET AT	HOW SET	RECOV
340	-	61,0	CEM	0
245	-	403,9	CEM	0
178	-	604,9	CEM	0

COMPLETION DATA

GAS:	-	10³m³/d
OIL:	-	m³/d
SIP:	-	kPa
FORM:	Guelph	
INTRVL:	610,0 - 678.3	m
		m
		m

PERF ☐ OPEN HOLE ☐

REMARKS

INITIAL OIL RECORD

INTERVAL	FLOW	DENSITY
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–		
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LOGGING RECORD

INTERVAL	TYPE	COMPANY
0.0 – 676.5	GRL	COMP
0.0 – 678.3	NEUT	"
604.0 – 678.3	DENL	"
0.0 – 581.6	CBVD	"
	CBND	"
–		
–		

INITIAL WATER RECORD

INTERVAL	STAT LEV	TYPE
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CORING RECORD

INTERVAL	LOCATION	NO.	mm
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	GEOLOGICAL CONTACTS	TOP	ELEV	THICK
	KB / LAKE LEVEL	0		
	DRIFT / LAKE BOTTOM	3.0		
DEVONIAN	PORT LAMBTON			
	KETTLE POINT	45.0		
	HAMILTON	73.5		
	MARCELLUS			
	DUNDEE	153.8		
	COLUMBUS			
	LUCAS	194.0		
	AMHERSTBURG	265.0		
	SYLVANIA			
	BOIS BLANC	322.0		
	SPRINGVALE			
	ORISKANY			
SILURIAN	BASS ISLANDS	340.0		
	G SHALE	381.5		
	F SHALE	387.9		
	F SALT			
	E CARBONATE	455.6		
	D SALT/EQUIVALENT	480.7		
	C SHALE	489.0		
	B MARKER	502.5		
	B EQUIVALENT			
	B SALT	509.6		
	B ANHYDRITE			
	A2 CARBONATE	571.3		
	A2 SALT			

	A2 ANHYDRITE	602.0			
	A1 CARBONATE				
	A1 SALT				
	A1 ANHYDRITE				
	GUELPH	607.4			
SILURIAN	ERAMOSA				
	GOAT ISLAND				
	GASPORT/WHARTON				
	DECEW				
	ROCHESTER				
	IRONDEQUOIT				
	REYNALES/FOSSIL HILL				
	THOROLD				
	GRIMSBY				
	CABOT HEAD				
	MANITOULIN				
	WHIRLPOOL				
ORDOVICIAN	QUEENSTON				
	BLUE MOUNTAIN - GEORG. BAY				
	COLLINGWOOD				
	COBOURG				
	VERULAM				
	KIRKFIELD				
	COBOCONK				
	GULL RIVER				
	SHADOW LAKE				
	CAMBRIAN				
	PRECAMBRIAN				

GEOLOGY BY: T. R. Carter

CTY:	Lambton	TWP:	Moore	BLK:	-	TRAC:	-	LOT: 21	CON: VII
WELL NAME:	Union Payne No. 22, Moore 21-VII			PERMIT:	7022	INIT CLASS:	NGS		
OPERATOR:	Union Gas Limited			TARGET:	SAL	CUR STATUS:	NGS		

DRILLING DATA				DATES		COORDINATES			SAMPLES	
CONTRACTOR:	Charles Shaw			PERMIT:	86-06-05	NORTH:	-	m	TOP:	42,0
RIG TYPE:	CAB	DEPTHS		SPUD:	86-06-09	SOUTH:	426,7	m	BOT:	665,5
CABLE TOP:	1.2	KB ELEV:	195.4	COMPTD:	86-07-31	EAST:	61,0	m	TRAY:	8534
BOT:	665.0	LOGGER:	665.8	OFFCNF:	86-08-30	WEST:	-	m		
ROTRY TOP:	-	DRILLER:	665.0	WRKOVR:	-	LAT:	42-50-47			
BOT:	-	DEEP END:	-	ABNDND:	-	LONG:	82-23-35			
DRLG FLD:	-	PLUG BK:	-							

INITIAL GAS RECORD

INTERVAL	FLOW	SIP
599 – 664	-	6550
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CASING AND TUBING RECORD

DIAM	WEIGHT	SET AT	HOW SET	RECOV
340	71.5	42.0	SHO	-
273	60.3	157.4	SHO	-
219	35.7	390.7	CEM	-
178	34.2	596.0	CEM	-

COMPLETION DATA

GAS:	-	10³m³/d
OIL:	-	m³/d
SIP:	6550	kPa
FORM:	Guelph	
INTRVL:	599 - 664	m
		m
		m

PERF ☐ OPEN HOLE ☐

REMARKS

INITIAL OIL RECORD

INTERVAL	FLOW	DENSITY
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–		
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LOGGING RECORD

INTERVAL	TYPE	COMPANY
0.0 – 665.0	GRL	COMP
0.0 – 666.0	NEUT	"
0.0 – 585.0	CBND	"
594.5 – 666.0	DENL	"
–		
–		
–		

INITIAL WATER RECORD

INTERVAL	STAT LEV	TYPE
42.0 – -	12.0	FRE
159.0 – -	60.0	SUL
–		
–		
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–		

CORING RECORD

INTERVAL	LOCATION	NO.	mm
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	GEOLOGICAL CONTACTS	TOP	ELEV	THICK
	KB / LAKE LEVEL	0.0		
	DRIFT / LAKE BOTTOM	1.2		
DEVONIAN	PORT LAMBTON			
	KETTLE POINT	42.5		
	HAMILTON	76.1		
	MARCELLUS			
	DUNDEE	156.0		
	COLUMBUS			
	LUCAS	185.0		
	AMHERSTBURG	258.0		
	SYLVANIA			
	BOIS BLANC	316.0		
	SPRINGVALE			
	ORISKANY			
SILURIAN	BASS ISLANDS	333.0		
	G SHALE	382.3		
	F SHALE	388.9		
	F SALT	432.1		
	E CARBONATE	450.8		
	D SALT/EQUIVALENT	477.5		
	C SHALE	486.0		
	B MARKER	497.3		
	B EQUIVALENT			
	B SALT	503.9		
	B ANHYDRITE			
	A2 CARBONATE	556.0		
	A2 SALT			

	A2 ANHYDRITE	592.2			
	A1 CARBONATE				
	A1 SALT				
	A1 ANHYDRITE				
	GUELPH	597.2			
SILURIAN	ERAMOSA				
	GOAT ISLAND				
	GASPORT/WHARTON				
	DECEW				
	ROCHESTER				
	IRONDEQUOIT				
	REYNALES/FOSSIL HILL				
	THOROLD				
	GRIMSBY				
	CABOT HEAD				
	MANITOULIN				
	WHIRLPOOL				
ORDOVICIAN	QUEENSTON				
	BLUE MOUNTAIN - GEORG. BAY				
	COLLINGWOOD				
	COBOURG				
	VERULAM				
	KIRKFIELD				
	COBOCONK				
	GULL RIVER				
	SHADOW LAKE				
	CAMBRIAN				
	PRECAMBRIAN				

GEOLOGY BY: T. R. Carter

CTY:	Lambton	TWP:	Moore	BLK:	-	TRAC:	I	LOT:	23	CON:	IX
WELL NAME:	Petrosar FB-9131 Ethylene S. Cavern, Moore 23 - IX			PERMIT:	6966			INIT CLASS:	SM		
OPERATOR:	Petrosar Ltd.			TARGET:	SAL			CUR STATUS:	OBS		

DRILLING DATA				DATES		COORDINATES			SAMPLES	
CONTRACTOR:	B&S Drilling			PERMIT:	86-01-16	NORTH:	-	m	TOP:	-
RIG TYPE:	Rotary	DEPTHS		SPUD:	86-02-05	SOUTH:	54.2	m	BOT:	-
CABLE TOP:	-	KB ELEV:	-	COMPTD:	86-02-05	EAST:	38.1	m	TRAY:	-
BOT:	-	LOGGER:	-	OFFCNF:	86-03-07	WEST:	-	m		
ROTRY TOP:	161,0 m	DRILLER:	-	WRKOVR:	-	LAT:	42-53-16			
BOT:	166,6 m	DEEP END:	166.6 m	ABNDND:	-	LONG:	80-24-52			
DRLG FLD:	-	PLUG BK:	-							

INITIAL GAS RECORD

INTERVAL	FLOW	SIP
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CASING AND TUBING RECORD

DIAM.	WEIGHT	SET AT	HOW SET	RECOV.
273	71.4	62	CEM	-
219	60.2	160	HAN	

COMPLETION DATA

GAS:	$10^3 m^3/d$
OIL:	m^3/d
SIP:	kPa
FORM:	
INTRVL:	m
	m
	m
PERF ☐	OPEN HOLE ☐

INITIAL OIL RECORD

INTERVAL	FLOW	DENSITY
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–		
–		
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LOGGING RECORD

INTERVAL	TYPE	COMPANY
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REMARKS

Well deepened in Hamilton Group from 161 to 166.6 m. Strong flow of ethylene encountered at 166.6 m - rig moved off.

INITIAL WATER RECORD

INTERVAL	STAT LEV	TYPE
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CORING RECORD

INTERVAL	LOCATION	NO	mm
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–			
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	GEOLOGICAL CONTACTS	TOP	ELEV	THICK
	KB / LAKE LEVEL			
	DRIFT / LAKE BOTTOM			
DEVONIAN	PORT LAMBTON			
	KETTLE POINT			
	HAMILTON			
	MARCELLUS			
	DUNDEE			
	COLUMBUS			
	LUCAS			
	AMHERSTBURG			
	SYLVANIA			
	BOIS BLANC			
	SPRINGVALE			
	ORISKANY			
SILURIAN	BASS ISLANDS			
	G SHALE			
	F SHALE			
	F SALT			
	E CARBONATE			
	D SALT/EQUIVALENT			
	C SHALE			
	B MARKER			
	B EQUIVALENT			
	B SALT			
	B ANHYDRITE			
	A2 CARBONATE			
	A2 SALT			

SILURIAN	A2 ANHYDRITE			
	A1 CARBONATE			
	A1 SALT			
	A1 ANHYDRITE			
	GUELPH			
	ERAMOSA			
	GOAT ISLAND			
	GASPORT/WIARTON			
	DECEW			
	ROCHESTER			
	IRONDEQUOIT			
	REYNALES/FOSSIL HILL			
	THOROLD			
	GRIMSBY			
	CABOT HEAD			
	MANITOULIN			
	WHIRLPOOL			
ORDOVICIAN	QUEENSTON			
	BLUE MOUNTAIN - GEORG. BAY			
	COLLINGWOOD			
	COBOURG			
	VERULAM			
	KIRKFIELD			
	COBOCONK			
	GULL RIVER			
	SHADOW LAKE			
	CAMBRIAN			
	PRECAMBRIAN			

GEOLOGY BY

CTY:	Lambton	TWP:	Moore	BLK:	-	TRAC:	B	LOT:	23	CON:	X
WELL NAME:	Petrosar FB9133(B), Moore 8-23-X			PERMIT:	7015			INIT CLASS:	LPG		
OPERATOR:	Petrosar Limited			TARGET:	SAL			CUR STATUS:	LPG		

DRILLING DATA				DATES		COORDINATES			SAMPLES	
CONTRACTOR:	Corunna Drilling Ltd.			PERMIT:	86-04-24	NORTH:	-	m	TOP:	70
RIG TYPE:	ROT	DEPTHS		SPUD:	86-04-23	SOUTH:	1338.0	m	BOT:	574
CABLE TOP:	-	KB ELEV:	201.1	COMPTD:	86-05-12	EAST:	-	m	TRAY:	8068
BOT:	-	LOGGER:	-	OFFCNF:	86-06-11	WEST:	111.4	m		
ROTRY TOP:	3.7	DRILLER:	640.0	WRKOVR:	-	LAT:	42-52-29			
BOT:	640.0	DEEP END:	-	ABNDND:	-	LONG:	82-24-06			
DRLG FLD:	-	PLUG BK:	-							

INITIAL GAS RECORD

INTERVAL	FLOW	SIP
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CASING AND TUBING RECORD

DIAM.	WEIGHT	SET AT	HOW SET	RECOV.
508	140	55.2	CEM	0
340	91	150.5	CEM	0
244	64.7	575.7	CEM	0
178	-	638.5	HAN	-

COMPLETION DATA

GAS:	$10^3 m^3/d$
OIL:	m^3/d
SIP:	kPa
FORM:	
INTRVL:	m
	m
	m
PERF ☐	OPEN HOLE ☐

INITIAL OIL RECORD

INTERVAL	FLOW	DENSITY
–		
–		
–		
–		
–		

LOGGING RECORD

INTERVAL	TYPE	COMPANY
9.5 – 565.5	GRL	SCH
151.0 – 572.0	DIRS	"
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REMARKS

Well history report. Top of cavern at 586 m Bottom at 640 m. Hole was directionally drilled below 257 m.

INITIAL WATER RECORD

INTERVAL	STAT LEV	TYPE
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CORING RECORD

INTERVAL	LOCATION	NO	mm
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–			
–			
–			
–			

	GEOLOGICAL CONTACTS	TOP	ELEV	THICK
	KB / LAKE LEVEL	0.0		
	DRIFT / LAKE BOTTOM	3.7		
DEVONIAN	PORT LAMBTON			
	KETTLE POINT	46.0		
	HAMILTON	96.2		
	MARCELLUS			
	DUNDEE	179.6		
	COLUMBUS			
	LUCAS	215.0		
	AMHERSTBURG	285.0		
	SYLVANIA			
	BOIS BLANC	350.0		
	SPRINGVALE			
	ORISKANY			
SILURIAN	BASS ISLANDS	370.0		
	G SHALE	416.7		
	F SHALE	423.2		
	F SALT	451.5		
	E CARBONATE	501.6		
	D SALT/EQUIVALENT	527.2		
	C SHALE	536.8		
	B MARKER	553.2		
	B EQUIVALENT			
	B SALT	565.0		
	B ANHYDRITE			
	A2 CARBONATE			
	A2 SALT			

SILURIAN	A2 ANHYDRITE			
	A1 CARBONATE			
	A1 SALT			
	A1 ANHYDRITE			
	GUELPH			
	ERAMOSA			
	GOAT ISLAND			
	GASPORT/WIARTON			
	DECEW			
	ROCHESTER			
	IRONDEQUOIT			
	REYNALES/FOSSIL HILL			
	THOROLD			
	GRIMSBY			
	CABOT HEAD			
	MANITOULIN			
	WHIRLPOOL			
ORDOVICIAN	QUEENSTON			
	BLUE MOUNTAIN - GEORG. BAY			
	COLLINGWOOD			
	COBOURG			
	VERULAM			
	KIRKFIELD			
	COBOCONK			
	GULL RIVER			
	SHADOW LAKE			
	CAMBRIAN			
	PRECAMBRIAN			

GEOLOGY BY T. R. Carter

CTY	Lambton	TWP	Moore	BLK	-	TRAC	8	LOT 23	CON X
WELL NAME	Petrosar FB-9130, Moore 8-23-X			PERMIT	6992	INIT CLASS	OBS		
OPERATOR	Petrosar Ltd.			TARGET	SAL	CUR STATUS	OBS		

DRILLING DATA				DATES		COORDINATES		SAMPLES	
CONTRACTOR	B & S Rotary Drilling Ltd.			PERMIT	86-02-27	NORTH	22.7 m	TOP	52
RIG TYPE	ROT	DEPTHS		SPUD	86-02-25	SOUTH	- m	BOT	287
CABLE TOP	-	KB ELEV	201.1	COMPTD	86-03-06	EAST	- m	TRAY	252
BOT	-	LOGGER	-	OFFCNF	86-04-05	WEST	38.4 m		
ROTRY TOP	3.7	DRILLER	286.5	WRKOVR	-	LAT	42-52-30		
BOT	286.5	DEEP END	-	ABNDND	-	LONG	82-24-03		
DRLG FLD	-	PLUG BK	-						

INITIAL GAS RECORD			CASING AND TUBING RECORD					COMPLETION DATA	
INTERVAL	FLOW	SIP	DIAM	WEIGHT	SET AT	HOW SET	RECOV	GAS	10³m³/d
—			273	60.3	56.4	CEM	0	OIL	m³/d
—			219	35.7	147.3	CEM	0	SIP	kPa
—								FORM	
—								INTRVL	m
—									m
—			LOGGING RECORD						m

INITIAL OIL RECORD			LOGGING RECORD			PERF ☐	OPEN HOLE ☑
INTERVAL	FLOW	DENSITY	INTERVAL	TYPE	COMPANY	REMARKS	
—			—			Abundant pyrite in coarse-grained brown dolomite, at 100.0 - 102.0. Ethylene encountered at 177, 187, and 223 m. Well left to vent to flare at surface. Will be permanent observation well after venting completed.	
—			—				
—			—				
—			—				
—			—				
—			—				

INITIAL WATER RECORD			CORING RECORD			
INTERVAL	STAT LEV	TYPE	INTERVAL	LOCATION	NO	mm
—			—			
—			—			
—			—			
—			—			
—			—			
—			—			

	GEOLOGICAL CONTACTS	TOP	ELEV	THICK		A2 ANHYDRITE			
	KB / LAKE LEVEL	0			SILURIAN	A1 CARBONATE			
	DRIFT / LAKE BOTTOM	3.7				A1 SALT			
DEVONIAN	PORT LAMBTON					A1 ANHYDRITE			
	KETTLE POINT	47.0				GUELPH			
	HAMILTON	99.0				ERAMOSA			
	MARCELLUS					GOAT ISLAND			
	DUNDEE	181.7				GASPORT/WIARTON			
	COLUMBUS					DECEW			
	LUCAS	211.2				ROCHESTER			
	AMHERSTBURG					IRONDEQUOIT			
	SYLVANIA					REYNALES/FOSSIL HILL			
	BOIS BLANC					THOROLD			
	SPRINGVALE					GRIMSBY			
	ORISKANY					CABOT HEAD			
SILURIAN	BASS ISLANDS					MANITOULIN			
	G SHALE					WHIRLPOOL			
	F SHALE				ORDOVICIAN	QUEENSTON			
	F SALT					BLUE MOUNTAIN - GEORG. BAY			
	E CARBONATE					COLLINGWOOD			
	D SALT/EQUIVALENT					COBOURG			
	C SHALE					VERULAM			
	B MARKER					KIRKFIELD			
	B EQUIVALENT					COBOCONK			
	B SALT					GULL RIVER			
	B ANHYDRITE					SHADOW LAKE			
	A2 CARBONATE					CAMBRIAN			
	A2 SALT					PRECAMBRIAN			

GEOLOGY BY T. R. Carter

CTY	Lambton	TWP	Moore	BLK	-	TRAC	-	LOT 23	CON XII
WELL NAME	Dow 56 B, Moore 23-XII			PERMIT	6979	INIT CLASS	LPG		
OPERATOR	Dow Chemical Inc.			TARGET	SAL	CUR STATUS	LPG		

DRILLING DATA				DATES		COORDINATES		SAMPLES	
CONTRACTOR	B & S Rotary Drilling Ltd.			PERMIT	86-02-06	NORTH	- m	TOP	92
RIG TYPE	ROT	DEPTHS		SPUD	86-03-21	SOUTH	940.3 m	BOT	616
CABLE TOP	-	KB ELEV	194.3	COMPTD	86-04-01	EAST	125.6 m	TRAY	7947
BOT	-	LOGGER	652.0	OFFCNF	86-04-31	WEST	- m		
ROTRY TOP	3.8	DRILLER	652.0	WRKOVR	-	LAT	42-54-11		
BOT	652.0	DEEP END	-	ABNDND	-	LONG	82-24-19		
DRLG FLD	BRINE	PLUG BK	-						

INITIAL GAS RECORD			CASING AND TUBING RECORD					COMPLETION DATA	
INTERVAL	FLOW	SIP	DIAM	WEIGHT	SET AT	HOW SET	RECOV	GAS	10³m³/d
—			340	81.1	91.2	CEM	0	OIL	m³/d
—			244	53.5	601.6	CEM	0	SIP	kPa
—			140	20.8	649.0	HAN	-	FORM	
—								INTRVL	m
—									m
—			LOGGING RECORD						m

INITIAL OIL RECORD			LOGGING RECORD			PERF ☐	OPEN HOLE ☐
INTERVAL	FLOW	DENSITY	INTERVAL	TYPE	COMPANY	REMARKS	
—			0 - 601.4	GRL	COMP		
—			0 - 604.1	NEUT	"	Bottom of cavern at 652 m. Top of cavern at 621 m.	
—			0 - 567.5	CBND	"		
—			—				
—			—				
—			—				

INITIAL WATER RECORD			CORING RECORD			
INTERVAL	STAT LEV	TYPE	INTERVAL	LOCATION	NO	mm
—			—			
—			—			
—			—			
—			—			
—			—			
—			—			

	GEOLOGICAL CONTACTS	TOP	ELEV	THICK		A2 ANHYDRITE			
	KB / LAKE LEVEL	0			SILURIAN	A1 CARBONATE			
	DRIFT / LAKE BOTTOM	3.8				A1 SALT			
DEVONIAN	PORT LAMBTON					A1 ANHYDRITE			
	KETTLE POINT	43.6				GUELPH			
	HAMILTON	88.7				ERAMOSA			
	MARCELLUS					GOAT ISLAND			
	DUNDEE	174.3				GASPORT/WIARTON			
	COLUMBUS					DECEW			
	LUCAS	216.0				ROCHESTER			
	AMHERSTBURG	285.0				IRONDEQUOIT			
	SYLVANIA					REYNALES/FOSSIL HILL			
	BOIS BLANC	348.0				THOROLD			
	SPRINGVALE					GRIMSBY			
	ORISKANY					CABOT HEAD			
SILURIAN	BASS ISLANDS	359.0				MANITOULIN			
	G SHALE	417.0				WHIRLPOOL			
	F SHALE	424.0			ORDOVICIAN	QUEENSTON			
	F SALT	447.4				BLUE MOUNTAIN - GEORG. BAY			
	E CARBONATE	530.0				COLLINGWOOD			
	D SALT/EQUIVALENT	556.6				COBOURG			
	C SHALE	566.6				VERULAM			
	B MARKER	580.6				KIRKFIELD			
	B EQUIVALENT					COBOCONK			
	B SALT	588.0				GULL RIVER			
	B ANHYDRITE					SHADOW LAKE			
	A2 CARBONATE					CAMBRIAN			
	A2 SALT					PRECAMBRIAN			

GEOLOGY BY T. R. Carter

CTY	Lambton	TWP	Moore	BLK	–	TRAC	5	LOT	24	CON	VI
WELL NAME	Ram #87 Moore 5-24-VI			PERMIT	6956			INIT CLASS	NPW		
OPERATOR	Ram Petroleums Limited			TARGET	ORD			CUR STATUS	DH		

DRILLING DATA				DATES		COORDINATES			SAMPLES	
CONTRACTOR	Corunna Drilling Ltd.			PERMIT	85-12-16	NORTH	444.0	m	TOP	101
RIG TYPE	ROT	DEPTHS		SPUD	85-12-19	SOUTH	444.0	m	BOT	1388
CABLE TOP	–	KB ELEV	194.7	COMPTD	86-01-11	EAST	156.9	m	TRAY	9125- 26
BOT	–	LOGGER	1390.0	OFFCNF	87-01-11	WEST	156.9	m		
ROTRY TOP	3.1	DRILLER	1390.0	WRKOVR	–	LAT	42-49-49			
BOT	1390.0	DEEP END	–	ABNDND	–	LONG	82-24-41			
DRLG FLD	BRINE	PLUG BK	235.0							

INITIAL GAS RECORD

INTERVAL	FLOW	SIP
–		
–		
–		
–		
–		
–		

CASING AND TUBING RECORD

DIAM	WEIGHT	SET AT	HOW SET	RECOV
244	54	80.2	CEM	0
178	30	756.3	CEM	0

COMPLETION DATA

GAS		10³m³/d
OIL		m³/d
SIP		kPa
FORM		
INTRVL		m
		m
		m

PERF ☐ OPEN HOLE ☐

REMARKS

INITIAL OIL RECORD

INTERVAL	FLOW	DENSITY
–		
–		
–		
–		
–		

LOGGING RECORD

INTERVAL	TYPE	COMPANY
72.0 -1380.0	GRL	SCH
72.0 -1382.5	CNL	"
80.0 -1389.0	LDT	"
545.0 -1385.0	SONL	"
80.0 -1386.0	LATL	"
80.0 - 757.0	MSFL	"
–		

INITIAL WATER RECORD

INTERVAL	STAT LEV	TYPE
255.0 – –	–	SUL
–		
–		
–		
–		
–		

CORING RECORD

INTERVAL	LOCATION	NO.	mm
–			
–			
–			
–			
–			

GEOLOGICAL CONTACTS		TOP	ELEV	THICK
	KB / LAKE LEVEL	0		
	DRIFT / LAKE BOTTOM	3.1		
DEVONIAN	PORT LAMBTON			
	KETTLE POINT	91.3		
	HAMILTON	144.4		
	MARCELLUS			
	DUNDEE	220.8		
	COLUMBUS			
	LUCAS	257.0		
	AMHERSTBURG	335.0		
	SYLVANIA			
	BOIS BLANC	374.0		
	SPRINGVALE	403.0		
	ORISKANY			
SILURIAN	BASS ISLANDS	404.0		
	G SHALE	445.3		
	F SHALE	451.6		
	F SALT			
	E CARBONATE	497.5		
	D SALT/EQUIVALENT	522.3		
	C SHALE	533.8		
	B MARKER	549.8		
	B EQUIVALENT			
	B SALT	556.5		
	B ANHYDRITE			
	A2 CARBONATE	641.9		
	A2 SALT	688.6		
SILURIAN	A2 ANHYDRITE			
	A1 CARBONATE	717.4		
	A1 SALT			
	A1 ANHYDRITE	756.5		
	GUELPH	763.5		
	ERAMOSA			
	GOAT ISLAND	768.6		
	GASPORT/WIARTON	774.0		
	DECEW			
	ROCHESTER	791.3		
	IRONDEQUOIT			
	REYNALES/FOSSIL HILL	798.6		
	THOROLD			
	GRIMSBY			
	CABOT HEAD	799.5		
	MANITOULIN	841.4		
	WHIRLPOOL			
ORDOVICIAN	QUEENSTON	851.9		
	BLUE MOUNTAIN - GEORG BAY	938.5		
	COLLINGWOOD			
	COBOURG	1045.0		
	VERULAM			
	KIRKFIELD			
	COBOCONK	1197.0		
	GULL RIVER			
	SHADOW LAKE	1350.0		
CAMBRIAN		1355.4		
PRECAMBRIAN		1370.0		

GEOLOGY BY T. R. Carter

CTY	Lambton	TWP	Moore	BLK	–	TRAC		LOT	24	CON	XI
WELL NAME	Dow 83, Moore 24-XI			PERMIT	6976			INIT CLASS	SM		
OPERATOR	Dow Chemical Canada Inc.			TARGET	SAL			CUR STATUS	SM		

DRILLING DATA				DATES		COORDINATES			SAMPLES	
CONTRACTOR	B & S Rotary Drilling Ltd.			PERMIT	86-02-06	NORTH	–	m	TOP	89
RIG TYPE	ROT	DEPTHS		SPUD	86-06-04	SOUTH	755.5	m	BOT	750
CABLE TOP	–	KB ELEV	197.1	COMPTD	86-06-13	EAST	247.2	m	TRAY	8638
BOT	–	LOGGER	749.2	OFFCNF	86-07-13	WEST	–	m		
ROTRY TOP	3.5	DRILLER	749.8	WRKOVR	–	LAT	42-53-33			
BOT	749,8	DEEP END	–	ABNDND	–	LONG	82-24-43			
DRLG FLD	–	PLUG BK	–							

INITIAL GAS RECORD

INTERVAL	FLOW	SIP
–		
–		
–		
–		
–		
–		

CASING AND TUBING RECORD

DIAM	WEIGHT	SET AT	HOW SET	RECOV
340	90.7	92.1	CEM	0
245	53.5	574.2	CEM	0
178	29.7	734.2	HAN	-
114	14.1	742.7	HAN	-

COMPLETION DATA

GAS		10³m³/d
OIL		m³/d
SIP		kPa
FORM		
INTRVL		m
		m
		m

PERF ☐ OPEN HOLE ☐

REMARKS

Open hole completion.

INITIAL OIL RECORD

INTERVAL	FLOW	DENSITY
–		
–		
–		
–		
–		

LOGGING RECORD

INTERVAL	TYPE	COMPANY
9.1 - 749.8	GRL	-
44.5 - 749.8	NEUT	-
82.3 - 749.8	CALP	-
–		
–		
–		

INITIAL WATER RECORD

INTERVAL	STAT LEV	TYPE
–		
–		
–		
–		
–		
–		

CORING RECORD

INTERVAL	LOCATION	NO.	mm
–			
–			
–			
–			
–			

GEOLOGICAL CONTACTS		TOP	ELEV	THICK
	KB / LAKE LEVEL	0		
	DRIFT / LAKE BOTTOM	3.5		
DEVONIAN	PORT LAMBTON			
	KETTLE POINT	45.1		
	HAMILTON	101.5		
	MARCELLUS			
	DUNDEE	185.3		
	COLUMBUS			
	LUCAS	215.0		
	AMHERSTBURG	303.0		
	SYLVANIA			
	BOIS BLANC	348.0		
	SPRINGVALE			
	ORISKANY			
SILURIAN	BASS ISLANDS	360.0		
	G SHALE	414.8		
	F SHALE	421.2		
	F SALT	445.9		
	E CARBONATE	519.1		
	D SALT/EQUIVALENT	545.9		
	C SHALE	555.7		
	B MARKER	570.0		
	B EQUIVALENT			
	B SALT	577.0		
	B ANHYDRITE			
	A2 CARBONATE	662.2		
	A2 SALT	714.5		
SILURIAN	A2 ANHYDRITE			
	A1 CARBONATE			
	A1 SALT			
	A1 ANHYDRITE			
	GUELPH			
	ERAMOSA			
	GOAT ISLAND			
	GASPORT/WIARTON			
	DECEW			
	ROCHESTER			
	IRONDEQUOIT			
	REYNALES/FOSSIL HILL			
	THOROLD			
	GRIMSBY			
	CABOT HEAD			
	MANITOULIN			
	WHIRLPOOL			
ORDOVICIAN	QUEENSTON			
	BLUE MOUNTAIN - GEORG BAY			
	COLLINGWOOD			
	COBOURG			
	VERULAM			
	KIRKFIELD			
	COBOCONK			
	GULL RIVER			
	SHADOW LAKE			
CAMBRIAN				
PRECAMBRIAN				

GEOLOGY BY T. R. Carter

CTY:	Lambton	TWP:	Moore	BLK:		TRAC:		LOT:	24	CON:	XII
WELL NAME	Dow 59B, Moore 24-XII			PERMIT	6980			INIT CLASS:	LPC		
OPERATOR	Dow Chemical Canada Inc.			TARGET	SAL			CUR STATUS:	LPC		

DRILLING DATA				DATES		COORDINATES			SAMPLES	
CONTRACTOR:	B & S Rotary Drilling Ltd.			PERMIT	86-02-06	NORTH:	-	m	TOP	92
RIG TYPE:	ROT	DEPTHS		SPUD	86-04-18	SOUTH	1173.8	m	BOT	602
CABLE TOP:	-	KB ELEV:	194.2	COMPTD:	86-04-28	EAST	407.2	m	TRAY	6919
BOT	-	LOGGER:	-	OFFCNF:	86-05-28	WEST	-	m		
ROTRY TOP	3.7	DRILLER:	-	WRKOVR:	-	LAT	42-54-03			
BOT	655.0	DEEP END:	-	ABNDND:	-	LONG:	82-24-34			
DRLG FLD:	-	PLUG BK:	-							

INITIAL GAS RECORD			CASING AND TUBING RECORD				
INTERVAL	FLOW	SIP	DIAM.	WEIGHT	SET AT	HOW SET	RECOV
–			340	81.1	92.0	CEM	0
–			244	53.5	581.6	CEM	0
–			60	7.0	644.4	HAN	0
–							
–							
–							

INITIAL OIL RECORD			LOGGING RECORD		
INTERVAL	FLOW	DENSITY	INTERVAL	TYPE	COMPANY
–			0.0 – 580.3	GRL	COMP
–			2.4 – 582.8	NEUT	"
–			83.4 – 582.2	CALP	"
–			–		
–			–		
			–		
			–		

INITIAL WATER RECORD			CORING RECORD			
INTERVAL	STAT LEV	TYPE	INTERVAL	LOCATION	NO.	mm
–			–			
–			–			
–			–			
–			–			
–			–			

COMPLETION DATA

GAS: 10³m³/d

OIL: m³/d

SIP: kPa

FORM:

INTRVL: m

m

m

PERF ☐ OPEN HOLE ☐

REMARKS

Top of cavern 601 m,
bottom of cavern 653 m

	GEOLOGICAL CONTACTS	TOP	ELEV	THICK					
	KB / LAKE LEVEL	0.0			SILURIAN	A2 ANHYDRITE			
	DRIFT / LAKE BOTTOM	3.7				A1 CARBONATE			
DEVONIAN	PORT LAMBTON					A1 SALT			
	KETTLE POINT	38.1				A1 ANHYDRITE			
	HAMILTON	90.2				GUELPH			
	MARCELLUS					ERAMOSA			
	DUNDEE	176.8				GOAT ISLAND			
	COLUMBUS					GASPORT/WHARTON			
	LUCAS	223.0				DECEW			
	AMHERSTBURG	293.0				ROCHESTER			
	SYLVANIA					IRONDEQUOIT			
	BOIS BLANC	343.5				REYNALES/FOSSIL HILL			
	SPRINGVALE					THOROLD			
	ORISKANY					GRIMSBY			
SILURIAN	BASS ISLANDS	356.0				CABOT HEAD			
	G SHALE	413.9				MANITOULIN			
	F SHALE	420.6				WHIRLPOOL			
	F SALT	443.2			ORDOVICIAN	QUEENSTON			
	E CARBONATE	523.3				BLUE MOUNTAIN - GEORG BAY			
	D SALT/EQUIVALENT	549.9				COLLINGWOOD			
	C SHALE	559.6				COBOURG			
	B MARKER	575.8				VERULAM			
	B EQUIVALENT					KIRKFIELD			
	B SALT	586.0				COBOCONK			
	B ANHYDRITE					GULL RIVER			
	A2 CARBONATE					SHADOW LAKE			
	A2 SALT					CAMBRIAN			
						PRECAMBRIAN			

GEOLOGY BY: T. R. Carter

CTY:	Lambton	TWP:	Moore	BLK:	-	TRAC:	-	LOT:	24	CON:	XII
WELL NAME	Dow 84, Moore 24-XII			PERMIT	6977			INIT CLASS:	SM		
OPERATOR	Dow Chemical Canada Inc.			TARGET	SAL			CUR STATUS:	SM		

DRILLING DATA				DATES		COORDINATES			SAMPLES	
CONTRACTOR:	B & S Rotary Drilling Ltd.			PERMIT	86-02-06	NORTH:	-	m	TOP	90
RIG TYPE:	ROT	DEPTHS		SPUD	86-05-05	SOUTH	1171.9	m	BOT	759
CABLE TOP:	-	KB ELEV:	193.9	COMPTD	86-05-14	EAST	164.9	m	TRAY	8420
BOT	-	LOGGER:	759.6	OFFCNF	86-06-13	WEST	-	m		
ROTRY TOP	3.5	DRILLER:	759.0	WRKOVR		LAT	42-54-04			
BOT	759.0	DEEP END:	-	ABNDND	-	LONG	82-24-45			
DRLG FLD:	-	PLUG BK:	-							

INITIAL GAS RECORD			CASING AND TUBING RECORD				
INTERVAL	FLOW	SIP	DIAM.	WEIGHT	SET AT	HOW SET	RECOV
–			340	90.7	89.6	CEM	0
–			244	53.5	602.2	CEM	0
–			178	29.7	745.8	HAN	0
–			114	14.1	755.0	HAN	0
–							
–							

INITIAL OIL RECORD			LOGGING RECORD		
INTERVAL	FLOW	DENSITY	INTERVAL	TYPE	COMPANY
–			0 – 756.5	GRL	COM
–			0 – 759.6	NEUT	"
–			67.1 – 758.3	CALP	"
–			–		
–			–		
			–		
			–		

INITIAL WATER RECORD			CORING RECORD			
INTERVAL	STAT LEV	TYPE	INTERVAL	LOCATION	NO.	mm
–			–			
–			–			
–			–			
–			–			
–			–			

COMPLETION DATA

GAS: 10³m³/d

OIL: m³/d

SIP: kPa

FORM:

INTRVL: m

m

m

PERF ☐ OPEN HOLE ☐

REMARKS

2 metres of anhydrite
at top of A2 Salt.

	GEOLOGICAL CONTACTS	TOP	ELEV.	THICK					
	KB / LAKE LEVEL	0.0			SILURIAN	A2 ANHYDRITE			
	DRIFT / LAKE BOTTOM	3.5				A1 CARBONATE			
DEVONIAN	PORT LAMBTON					A1 SALT			
	KETTLE POINT	39.0				A1 ANHYDRITE			
	HAMILTON	93.9				GUELPH			
	MARCELLUS					ERAMOSA			
	DUNDEE	179.8				GOAT ISLAND			
	COLUMBUS					GASPORT/WHARTON			
	LUCAS	210.0				DECEW			
	AMHERSTBURG	294.0				ROCHESTER			
	SYLVANIA					IRONDEQUOIT			
	BOIS BLANC	345.0				REYNALES/FOSSIL HILL			
	SPRINGVALE					THOROLD			
	ORISKANY					GRIMSBY			
SILURIAN	BASS ISLANDS	359.0				CABOT HEAD			
	G SHALE	416.7				MANITOULIN			
	F SHALE	423.4				WHIRLPOOL			
	F SALT	448.9			ORDOVICIAN	QUEENSTON			
	E CARBONATE	526.1				BLUE MOUNTAIN - GEORG BAY			
	D SALT/EQUIVALENT	552.9				COLLINGWOOD			
	C SHALE	563.3				COBOURG			
	B MARKER	579.1				VERULAM			
	B EQUIVALENT					KIRKFIELD			
	B SALT	586.1				COBOCONK			
	B ANHYDRITE					GULL RIVER			
	A2 CARBONATE	675.1				SHADOW LAKE			
	A2 SALT	721.2				CAMBRIAN			
						PRECAMBRIAN			

GEOLOGY BY: T. R. Carter

CTY: Lambton	TWP: Moore	BLK: -	TRAC: -	LOT: 24	CON: XII
WELL NAME: Dow 85, Moore 24-XII		PERMIT: 6978		INIT CLASS: SM	
OPERATOR: Dow Chemical Canada Inc.		TARGET: SAL		CUR STATUS: SM	

DRILLING DATA				DATES		COORDINATES		SAMPLES	
CONTRACTOR:	B & S Rotary Drilling Ltd.			PERMIT:	86-02-06	NORTH:	- m	TOP:	91
RIG TYPE:	ROT	DEPTHS		SPUD:	86-05-21	SOUTH	587.2 m	BOT:	768
CABLE TOP:	-	KB ELEV:	192.6	COMPTD:	86-05-30	EAST	158.6 m	TRAY:	8580
BOT:	-	LOGGER:		OFFCNF:	86-06-29	WEST	- m		
ROTRY TOP:	3.5	DRILLER:	766.8	WRKOVR:	-	LAT	42-54-20		
BOT:	766.8	DEEP END:	-	ABNDND:	-	LONG	82-24-45		
DRLG FLD:	-	PLUG BK:	-						

INITIAL GAS RECORD

INTERVAL	FLOW	SIP
–		
–		
–		
–		
–		
–		

CASING AND TUBING RECORD

DIAM	WEIGHT	SET AT	HOW SET	RECOV
340	90.7	90.2	CEM	0
245	53.5	584.3	CEM	0
178	29.7	749.0	HAN	-
114	14.1	760.7	HAN	-

COMPLETION DATA

GAS:	10³m³/d
OIL:	m³/d
SIP:	kPa
FORM:	
INTRVL:	m
	m
	m
PERF ☐	OPEN HOLE ☐

REMARKS

INITIAL OIL RECORD

INTERVAL	FLOW	DENSITY
–		
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–		
–		
–		

LOGGING RECORD

INTERVAL	TYPE	COMPANY
0 – 766.0	GRL	COM
0 – 766.0	NEUT	"
0 – 591.3	CBND	"
579.1 – 766.0	CALP	"
577.9 – 765.4	DENL	"
–		
–		

INITIAL WATER RECORD

INTERVAL	STAT LEV	TYPE
–		
–		
–		
–		
–		
–		

CORING RECORD

INTERVAL	LOCATION	NO	mm
–			
–			
–			
–			
–			

GEOLOGICAL CONTACTS		TOP	ELEV.	THICK
	KB / LAKE LEVEL	0.0		
	DRIFT / LAKE BOTTOM	3.5		
DEVONIAN	PORT LAMBTON			
	KETTLE POINT	61.0		
	HAMILTON	91.1		
	MARCELLUS			
	DUNDEE	177.1		
	COLUMBUS			
	LUCAS	211.0		
	AMHERSTBURG	301.0		
	SYLVANIA			
	BOIS BLANC	346.0		
	SPRINGVALE			
	ORISKANY			
SILURIAN	BASS ISLANDS	361.0		
	G SHALE	416.7		
	F SHALE	423.4		
	F SALT	468.1		
	E CARBONATE	526.7		
	D SALT/EQUIVALENT	553.2		
	C SHALE	563.0		
	B MARKER	580.3		
	B EQUIVALENT			
	B SALT	590.7		
	B ANHYDRITE			
	A2 CARBONATE	681.5		
	A2 SALT	727.9		
SILURIAN	A2 ANHYDRITE			
	A1 CARBONATE			
	A1 SALT			
	A1 ANHYDRITE			
	GUELPH			
	ERAMOSA			
	GOAT ISLAND			
	GASPORT/WIARTON			
	DECEW			
	ROCHESTER			
	IRONDEQUOIT			
	REYNALES/FOSSIL HILL			
	THOROLD			
	GRIMSBY			
	CABOT HEAD			
	MANITOULIN			
	WHIRLPOOL			
ORDOVICIAN	QUEENSTON			
	BLUE MOUNTAIN - GEORG. BAY			
	COLLINGWOOD			
	COBOURG			
	VERULAM			
	KIRKFIELD			
	COBOCONK			
	GULL RIVER			
	SHADOW LAKE			
	CAMBRIAN			
	PRECAMBRIAN			

GEOLOGY BY: T. R. Carter

CTY: Lambton	TWP: Moore	BLK: -	TRAC: 2	LOT: 3	CON: I
WELL NAME: Baker #3, Moore 2-3-I		PERMIT: 7037		INIT CLASS: NFW	
OPERATOR: Pedrilex Corporation Ltd.		TARGET: SAL		CUR STATUS: DH-ABD	

DRILLING DATA				DATES		COORDINATES		SAMPLES	
CONTRACTOR	Circle A Drilling Inc.			PERMIT	86-08-11	NORTH:	- m	TOP:	21.0
RIG TYPE	CAB	DEPTHS		SPUD	86-08-15	SOUTH:	109.7 m	BOT	665.7
CABLE TOP	1.2	KB ELEV	190.9	COMPTD	86-09-16	EAST	137.2 m	TRAY	8647
BOT	665.6	LOGGER	-	OFFCNF	87-09-16	WEST	- m		
ROTRY TOP	-	DRILLER	665.6	WRKOVR	-	LAT	42-46-26		
BOT	-	DEEP END:	-	ABNDND	86-09-20	LONG	82-15- 38.5		
DRLG FLD	-	PLUG BK	-						

INITIAL GAS RECORD

INTERVAL	FLOW	SIP
–		
–		
–		
–		
–		
–		

CASING AND TUBING RECORD

DIAM	WEIGHT	SET AT	HOW SET	RECOV
273	60.3	21.9	SHO	21.9
219	35.7	124.0	SHO	124.0
178	29.8	352.9	CEM	295.3

COMPLETION DATA

GAS:	10³m³/d
OIL:	m³/d
SIP:	kPa
FORM:	
INTRVL:	m
	m
	m
PERF ☐	OPEN HOLE ☐

REMARKS

INITIAL OIL RECORD

INTERVAL	FLOW	DENSITY
–		
–		
–		
–		
–		

LOGGING RECORD

INTERVAL	TYPE	COMPANY
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–		
–		
–		
–		

INITIAL WATER RECORD

INTERVAL	STAT LEV	TYPE
159.4 – –	–	SUL
–		
–		
–		
–		
–		

CORING RECORD

INTERVAL	LOCATION	NO	mm
–			
–			
–			
–			
–			
–			

GEOLOGICAL CONTACTS		TOP	ELEV	THICK
	KB / LAKE LEVEL	0.0		
	DRIFT / LAKE BOTTOM	1.2		
DEVONIAN	PORT LAMBTON			
	KETTLE POINT	21.3		
	HAMILTON	40.0		
	MARCELLUS			
	DUNDEE	120.0		
	COLUMBUS			
	LUCAS	150.0		
	AMHERSTBURG	228.0		
	SYLVANIA			
	BOIS BLANC	270.0		
	SPRINGVALE			
	ORISKANY			
SILURIAN	BASS ISLANDS	293.7		
	G SHALE	339.0		
	F SHALE	347.0		
	F SALT			
	E CARBONATE	388.0		
	D SALT/EQUIVALENT	416.0		
	C SHALE	427.0		
	B MARKER	444.0		
	B EQUIVALENT			
	B SALT	452.0		
	B ANHYDRITE			
	A2 CARBONATE	526.0		
	A2 SALT	570.5		
SILURIAN	A2 ANHYDRITE	597.0		
	A1 CARBONATE	598.0		
	A1 SALT			
	A1 ANHYDRITE	634.0		
	GUELPH	638.3		
	ERAMOSA			
	GOAT ISLAND	645.0		
	GASPORT/WIARTON	654.0		
	DECEW			
	ROCHESTER			
	IRONDEQUOIT			
	REYNALES/FOSSIL HILL			
	THOROLD			
	GRIMSBY			
	CABOT HEAD			
	MANITOULIN			
	WHIRLPOOL			
ORDOVICIAN	QUEENSTON			
	BLUE MOUNTAIN - GEORG. BAY			
	COLLINGWOOD			
	COBOURG			
	VERULAM			
	KIRKFIELD			
	COBOCONK			
	GULL RIVER			
	SHADOW LAKE			
	CAMBRIAN			
	PRECAMBRIAN			

GEOLOGY BY: T. R. Carter

CTY: Lambton TWP: Moore BLK: TRAC: 4 LOT: 5 CON: IV
WELL NAME: Ram 86, Moore 4-5-IV PERMIT: 6949 INIT CLASS: NPW
OPERATOR: Ram Petroleums Limited TARGET: ORD CUR STATUS: DH-ABD

DRILLING DATA				DATES		COORDINATES			SAMPLES	
CONTRACTOR:	Rawlings Drilling Co. Ltd.			PERMIT:	85-12-06	NORTH:	-	m	TOP:	34,0
RIG TYPE:	CAB	DEPTHS		SPUD:	85-[illegible]-20	SOUTH:	360,0	m	BOT:	1257.0
CABLE TOP:	1.5	KB ELEV:	193.3	COMPTD:	86-04-15	EAST:	-	m	TRAY:	9130-
BOT:	1257.0	LOGGER:	1253.0	OFFCNF:	87-04-15	WEST:	200,0	m		31
ROTRY TOP:	-	DRILLER:	1257.0	WRKOVR:	-	LAT:	42-48-30			
BOT:	-	DEEP END:	-	ABNDND:	86-05-02	LONG:	82-16-15			
DRLG FLD:		PLUG BK:	1170.0							

INITIAL GAS RECORD

INTERVAL	FLOW	SIP
8 – -	-	-
–		
–		
–		
–		
–		

CASING AND TUBING RECORD

DIAM	WEIGHT	SET AT	HOW SET	RECOV
340	71.4	34.1	SHO	34.1
273	59.5	197.6	SHO	197.6
219	35.7	473.2	PAC	463.5
177,8	29.8	974.0	PAC	917.0

COMPLETION DATA

GAS: $10^3 m^3/d$
OIL: m^3/d
SIP: kPa
FORM:
INTRVL: m
m
m
PERF ☐ OPEN HOLE ☐

INITIAL OIL RECORD

INTERVAL	FLOW	DENSITY
1245,3 – 1248,3	-	-
–		
–		
–		
–		

LOGGING RECORD

INTERVAL	TYPE	COMPANY
15.0 – 1243.5	GRL	SCH
192.0 –	CNL	"
974.0 – 1252.0	LDT	"
865,0 – 1248.5	SONL	"
974,0 – 1249.5	LATL	"
974,0 – 1252,0	MSFL	"
974,0 – 1252.0	CBLK	"

REMARKS

INITIAL WATER RECORD

INTERVAL	STAT LEV	TYPE
33.5 – -	-	FRE
234.6 – -	61	SUL
–		
–		
–		
–		

CORING RECORD

INTERVAL	LOCATION	NO.	mm
–			
–			
–			
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–			

	GEOLOGICAL CONTACTS	TOP	ELEV	THICK		A2 ANHYDRITE	635.0		
	KB / LAKE LEVEL	0.0				A1 CARBONATE	638.0		
	DRIFT / LAKE BOTTOM	1.5				A1 SALT			
DEVONIAN	PORT LAMBTON					A1 ANHYDRITE	676.6		
	KETTLE POINT	33.5				GUELPH	681.8		
	HAMILTON	76.2				ERAMOSA			
	MARCELLUS					GOAT ISLAND	687.6		
	DUNDEE	195.5			SILURIAN	GASPORT/WIARTON	695.0		
	COLUMBUS					DECEW			
	LUCAS	250.0				ROCHESTER	711.0		
	AMHERSTBURG	323.0				IRONDEQUOIT			
	SYLVANIA					REYNALES/FOSSIL HILL	725.0		
	BOIS BLANC	393.0				THOROLD			
	SPRINGVALE					GRIMSBY			
	ORISKANY					CABOT HEAD	727.0		
SILURIAN	BASS ISLANDS	411.0				MANITOULIN	758.0		
	G SHALE	464.3				WHIRLPOOL			
	F SHALE	470.8			ORDOVICIAN	QUEENSTON	768.9		
	F SALT					BLUE MOUNTAIN - GEORG BAY	858.5		
	E CARBONATE	514.5				COLLINGWOOD			
	D SALT/EQUIVALENT					COBOURG	973.0		
	C SHALE	541.3				VERULAM	980.0		
	B MARKER	556.8				KIRKFIELD	1049.5		
	B EQUIVALENT	563.8				COBOCONK	1114.9		
	B SALT					GULL RIVER	1143.5		
	B ANHYDRITE	569.0				SHADOW LAKE	1243. 0		
	A2 CARBONATE	573.0				CAMBRIAN	1243.8		
	A2 SALT	612.2				PRECAMBRIAN	1248.0		

GEOLOGY BY: T. R. Carter

CTY: Lambton TWP: Sarnia BLK: - TRAC: 3 LOT: 3 CON: VI
WELL NAME: Devran, Sarnia 1-3-3-VI PERMIT: 6719 INIT CLASS: DEV
OPERATOR: Blackwell Petroleum Services Ltd. TARGET: DEV CUR STATUS: OP

DRILLING DATA				DATES		COORDINATES			SAMPLES	
CONTRACTOR:	Patrick Harrison & Co.			PERMIT:	85-03-26	NORTH:	-	m	TOP:	
RIG TYPE:	-	DEPTHS		SPUD:	85-03-29	SOUTH:	407.7	m	BOT:	
CABLE TOP:		KB ELEV:	186.2	COMPTD:	86-04-30	EAST:	272.5	m	TRAY:	
BOT:		LOGGER:	-	OFFCNF:	86-05-29	WEST:	-	m		
ROTRY TOP:		DRILLER:	128.6	WRKOVR:		LAT:	42-49-55			
BOT:		DEEP END:	-	ABNDND:		LONG:	82-15-24			
DRLG FLD:	-	PLUG BK:	-							

INITIAL GAS RECORD

INTERVAL	FLOW	SIP
–		
–		
–		
–		
–		
–		

CASING AND TUBING RECORD

DIAM	WEIGHT	SET AT	HOW SET	RECOV
2896.0	-	15.2	CEM	0
2743.0	-	30.8	CEM	0

COMPLETION DATA

GAS: $10^3 m^3/d$
OIL: m^3/d
SIP: kPa
FORM:
INTRVL: m
m
m
PERF ☐ OPEN HOLE ☐

INITIAL OIL RECORD

INTERVAL	FLOW	DENSITY
103,9 – 128.6	-	-
–		
–		
–		
–		

LOGGING RECORD

INTERVAL	TYPE	COMPANY
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REMARKS

No samples.
This well is a shaft excavated on the site of a stratigraphic test drilled by Devran in 1984 under permit 6552 and increases the diameter of the original hole to about 3 metres.

INITIAL WATER RECORD

INTERVAL	STAT LEV	TYPE
30,8 – 33.5	-	FRE
–		
–		
–		
–		

CORING RECORD

INTERVAL	LOCATION	NO.	mm
–			
–			
–			
–			
–			

	GEOLOGICAL CONTACTS	TOP	ELEV	THICK		A2 ANHYDRITE			
	KB / LAKE LEVEL	0				A1 CARBONATE			
	DRIFT / LAKE BOTTOM	0				A1 SALT			
DEVONIAN	PORT LAMBTON					A1 ANHYDRITE			
	KETTLE POINT					GUELPH			
	HAMILTON	31.7				ERAMOSA			
	MARCELLUS					GOAT ISLAND			
	DUNDEE	103.9			SILURIAN	GASPORT/WIARTON			
	COLUMBUS					DECEW			
	LUCAS					ROCHESTER			
	AMHERSTBURG					IRONDEQUOIT			
	SYLVANIA					REYNALES/FOSSIL HILL			
	BOIS BLANC					THOROLD			
	SPRINGVALE					GRIMSBY			
	ORISKANY					CABOT HEAD			
SILURIAN	BASS ISLANDS					MANITOULIN			
	G SHALE					WHIRLPOOL			
	F SHALE				ORDOVICIAN	QUEENSTON			
	F SALT					BLUE MOUNTAIN - GEORG BAY			
	E CARBONATE					COLLINGWOOD			
	D SALT/EQUIVALENT					COBOURG			
	C SHALE					VERULAM			
	B MARKER					KIRKFIELD			
	B EQUIVALENT					COBOCONK			
	B SALT					GULL RIVER			
	B ANHYDRITE					SHADOW LAKE			
	A2 CARBONATE					CAMBRIAN			
	A2 SALT					PRECAMBRIAN			

GEOLOGY BY: T. R. Carter

CTY: Lambton	TWP: Sarnia	BLK: -	TRAC: 3	LOT: 3	CON: VI
WELL NAME: Devran B. Sarnia 1-3-3-VI		PERMIT: 7021		INIT CLASS: DEV	
OPERATOR: Blackwell Petroleum Services Ltd.		TARGET: DEV		CUR STATUS: OP	

DRILLING DATA				DATES		COORDINATES			SAMPLES	
CONTRACTOR:	Eagle Drilling Services			PERMIT:	86-06-05	NORTH:	-	m	TOP:	35.0
RIG TYPE:	ROT	DEPTHS		SPUD:	86-05-16	SOUTH:	393.1	m	BOT:	117.3
CABLE TOP:	-	KB ELEV:	187.4	COMPTD:	86-05-24	EAST:	271.4	m	TRAY:	1934
BOT:	-	LOGGER:	-	OFFCNF:	86-06-23	WEST:	-	m		
ROTRY TOP:	1.2	DRILLER:	121.5	WRKOVR:	-	LAT:	42-49-55			
BOT:	121.5	DEEP END:	-	ABNDND:	-	LONG:	82-15-24			
DRLG FLD:	-	PLUG BK:	-							

INITIAL GAS RECORD			CASING AND TUBING RECORD					COMPLETION DATA	
INTERVAL	FLOW	BP	DIAM.	WEIGHT	SET AT	HOW SET	RECOV	GAS:	10³m³/d
–			178	25.3	32.0	SHO	32.0	OIL:	m³/d
–			114	14.1	121.5	CEM	0	BP:	kPa
–			51	-	121.5	-	0	FORM:	
–								INTRVL:	m
–									m
–									m

INITIAL OIL RECORD			LOGGING RECORD			PERF ☐	OPEN HOLE ☐
INTERVAL	FLOW	DENSITY	INTERVAL	TYPE	COMPANY	REMARKS	
–			–			This hole offsets the Devran shaft and will be used for moving produced fluid from the work chambers to the surface.	
–			–				
–			–				
–			–				
–			–				

INITIAL WATER RECORD			CORING RECORD			
INTERVAL	STAT LEV	TYPE	INTERVAL	LOCATION	NO.	ANAL
–			–			
–			–			
–			–			
–			–			
–			–			

	GEOLOGICAL CONTACTS	TOP	ELEV	THICK					
	KB / LAKE LEVEL	0.0				A2 ANHYDRITE			
	DRIFT / LAKE BOTTOM	1.2				A1 CARBONATE			
DEVONIAN	PORT LAMBTON					A1 SALT			
	KETTLE POINT					A1 ANHYDRITE			
	HAMILTON	32.3				GUELPH			
	MARCELLUS					ERAMOSA			
	DUNDEE	105.8				GOAT ISLAND			
	COLUMBUS				SILURIAN	GASPORT/WIARTON			
	LUCAS					DECEW			
	AMHERSTBURG					ROCHESTER			
	SYLVANIA					IRONDEQUOIT			
	BOIS BLANC					REYNALES/FOSSIL HILL			
	SPRINGVALE					THOROLD			
	ORISKANY					GRIMSBY			
SILURIAN	BASS ISLANDS					CABOT HEAD			
	G SHALE					MANITOULIN			
	F SHALE					WHIRLPOOL			
	F SALT				ORDOVICIAN	QUEENSTON			
	E CARBONATE					BLUE MOUNTAIN - GEORG BAY			
	D SALT/EQUIVALENT					COLLINGWOOD			
	C SHALE					COBOURG			
	B MARKER					VERULAM			
	B EQUIVALENT					KIRKFIELD			
	B SALT					COBOCONK			
	B ANHYDRITE					GULL RIVER			
	A2 CARBONATE					SHADOW LAKE			
	A2 SALT					CAMBRIAN			
						PRECAMBRIAN			

GEOLOGY BY: T. R. Carter

CTY: Lambton	TWP: Sarnia	BLK: -	TRAC: 2	LOT: 1	CON: VI
WELL NAME: Devran Disposal, Sarnia 3-2-3-VI		PERMIT: 6998		INIT CLASS: BD	
OPERATOR: Blackwell Petroleum Services Ltd.		TARGET: DEV		CUR STATUS: -	

DRILLING DATA				DATES		COORDINATES			SAMPLES	
CONTRACTOR:	Kenneth J. Girard Drilling			PERMIT:	86-03-11	NORTH:	-	m	TOP:	150
RIG TYPE:	CAB	DEPTHS		SPUD:	86-03-10	SOUTH:	251.5	m	BOT:	206
CABLE TOP:	146.4	KB ELEV:	187.1	COMPTD:	86-03-21	EAST:	76.2	m	TRAY:	189
BOT:	207.3	LOGGER:	207.0	OFFCNF:	86-04-20	WEST:	-	m		
ROTRY TOP:	1.3	DRILLER:	207.3	WRKOVR:	-	LAT:	42-58-46			
BOT:	146.4	DEEP END:	-	ABNDND:	-	LONG:	82-15-14			
DRLG FLD:	-	PLUG BK:	196.6							

INITIAL GAS RECORD			CASING AND TUBING RECORD					COMPLETION DATA	
INTERVAL	FLOW	BP	DIAM.	WEIGHT	SET AT	HOW SET	RECOV	GAS:	10³m³/d
–			178	25.3	41.0	CEM	0	OIL:	m³/d
–			114	14.1	135.6	CEM	0	BP:	kPa
–			60	7.0	139.5	HWP	0	FORM:	
–								INTRVL:	m
–									m
–									m

INITIAL OIL RECORD			LOGGING RECORD			PERF ☐	OPEN HOLE ☐
INTERVAL	FLOW	DENSITY	INTERVAL	TYPE	COMPANY	REMARKS	
106.4 – 114.7	-	-	0 – 206.0	GRL	COMP	2 cm lens of Columbus sand on top of Lucas.	
120.2 – 129.4	-	-	0 – 208.0	NEUT	"		
–			100.0 – 206.7	DENL	"		
–			139.0 – 150.0	PRMS	"		
–			–				
			–				
			–				

INITIAL WATER RECORD			CORING RECORD			
INTERVAL	STAT LEV	TYPE	INTERVAL	LOCATION	NO.	ANAL
107.3 – -	-	SUL	102.8 – 139.2	PRL	871	Y
142.0 – -	36.9	SUL	–			
–			–			
–			–			
–			–			

	GEOLOGICAL CONTACTS	TOP	ELEV	THICK					
	KB / LAKE LEVEL	0				A2 ANHYDRITE			
	DRIFT / LAKE BOTTOM	1.3				A1 CARBONATE			
DEVONIAN	PORT LAMBTON					A1 SALT			
	KETTLE POINT					A1 ANHYDRITE			
	HAMILTON	32.0				GUELPH			
	MARCELLUS					ERAMOSA			
	DUNDEE	104.4				GOAT ISLAND			
	COLUMBUS				SILURIAN	GASPORT/WIARTON			
	LUCAS	137.7				DECEW			
	AMHERSTBURG					ROCHESTER			
	SYLVANIA					IRONDEQUOIT			
	BOIS BLANC					REYNALES/FOSSIL HILL			
	SPRINGVALE					THOROLD			
	ORISKANY					GRIMSBY			
SILURIAN	BASS ISLANDS					CABOT HEAD			
	G SHALE					MANITOULIN			
	F SHALE					WHIRLPOOL			
	F SALT				ORDOVICIAN	QUEENSTON			
	E CARBONATE					BLUE MOUNTAIN - GEORG BAY			
	D SALT/EQUIVALENT					COLLINGWOOD			
	C SHALE					COBOURG			
	B MARKER					VERULAM			
	B EQUIVALENT					KIRKFIELD			
	B SALT					COBOCONK			
	B ANHYDRITE					GULL RIVER			
	A2 CARBONATE					SHADOW LAKE			
	A2 SALT					CAMBRIAN			
						PRECAMBRIAN			

GEOLOGY BY: T. R. Carter

CTY: Lambton	TWP: Sarnia	BLK: -	TRAC: -	LOT: 49	CON: RF
WELL NAME: AQ11 Esso Refinery, Sarnia - 49-RF		PERMIT: 7049		INIT CLASS: OBS	
OPERATOR: Esso Petroleum Canada		TARGET: DEV		CUR STATUS:	

DRILLING DATA				DATES		COORDINATES		SAMPLES	
CONTRACTOR:	C.G. Stevenson			PERMIT	86-07-02	NORTH	- m	TOP	-
RIG TYPE	ROT	DEPTHS		SPUD	86-06-28	SOUTH	5.0 m	BOT	-
CABLE TOP	-	KB ELEV	182.3	COMPTD	86-07-03	EAST	- m	TRAY	-
BOT	-	LOGGER	-	OFFCNF	86-08-02	WEST	475.0 m		
ROTRY TOP	0.0	DRILLER	83.8	WRKOVR	-	LAT	42-57-35		
BOT	83.8	DEEP END	-	ABNDND	-	LONG	82-24-43		
DRLG FLD	-	PLUG BK	68.6						

INITIAL GAS RECORD

INTERVAL	FLOW	SIP
–		
–		
–		
–		
–		
–		

CASING AND TUBING RECORD

DIAM	WEIGHT	SET AT	HOW SET	RECOV
254	-	12.2	CEM	
127	-	68.6	CEM	

COMPLETION DATA

GAS	10 ³m³/d
OIL	m³/d
SIP	kPa
FORM	
INTRVL	m
	m
	m
PERF ☐	OPEN HOLE ☐

INITIAL OIL RECORD

INTERVAL	FLOW	DENSITY
–		
–		
–		
–		
–		

LOGGING RECORD

INTERVAL	TYPE	COMPANY
68 – 80	GRL	-
0 – 80	CALP	-
68 – 80	ES	-
–		
–		
–		
–		

REMARKS

No samples.

INITIAL WATER RECORD

INTERVAL	STAT LEV	TYPE
–		
–		
–		
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–		
–		

CORING RECORD

INTERVAL	LOCATION	NO	rec.
–			
–			
–			
–			
–			

	GEOLOGICAL CONTACTS	TOP	ELEV	THICK
	KB / LAKE LEVEL	0.0		
	DRIFT / LAKE BOTTOM	0.0		
DEVONIAN	PORT LAMBTON			
	KETTLE POINT	68.6		
	HAMILTON			
	MARCELLUS			
	DUNDEE			
	COLUMBUS			
	LUCAS			
	AMHERSTBURG			
	SYLVANIA			
	BOIS BLANC			
	SPRINGVALE			
	ORISKANY			
SILURIAN	BASS ISLANDS			
	G SHALE			
	F SHALE			
	F SALT			
	E CARBONATE			
	D SALT/EQUIVALENT			
	C SHALE			
	B MARKER			
	B EQUIVALENT			
	B SALT			
	B ANHYDRITE			
	A2 CARBONATE			
	A2 SALT			

SILURIAN	A2 ANHYDRITE			
	A1 CARBONATE			
	A1 SALT			
	A1 ANHYDRITE			
	GUELPH			
	ERAMOSA			
	GOAT ISLAND			
	GASPORT/WHARTON			
	DECEW			
	ROCHESTER			
	IRONDEQUOIT			
	REYNALES/FOSSIL HILL			
	THOROLD			
	GRIMSBY			
	CABOT HEAD			
	MANITOULIN			
	WHIRLPOOL			
ORDOVICIAN	QUEENSTON			
	BLUE MOUNTAIN - GEORG BAY			
	COLLINGWOOD			
	COBOURG			
	VERULAM			
	KIRKFIELD			
	COBOCONK			
	GULL RIVER			
	SHADOW LAKE			
CAMBRIAN				
PRECAMBRIAN				

GEOLOGY BY: T. R. Carter

CTY: Lambton	TWP: Sarnia	BLK: -	TRAC:	LOT: A	CON: V
WELL NAME: Cavern 4040A, Sarnia A Range V		PERMIT: 7074		INIT CLASS: LPC	
OPERATOR: Imperial Oil Enterprises Ltd.		TARGET: SAL		CUR STATUS: -	

DRILLING DATA				DATES		COORDINATES		SAMPLES	
CONTRACTOR:	Corunna Drilling Ltd.			PERMIT	86-11-20	NORTH	61.0 m	TOP	0 m
RIG TYPE	ROT	DEPTHS		SPUD	86-11-22	SOUTH	- m	BOT	774.0m
CABLE TOP	-	KB ELEV	185.5	COMPTD	86-12-18	EAST	- m	TRAY	9162-63
BOT	-	LOGGER	731.4 m	OFFCNF	87-01-17	WEST	61.0 m		
ROTRY TOP	0 m	DRILLER	808.0 m	WRKOVR	-	LAT	42-57-05.5		1
BOT	808.0 m	DEEP END	-	ABNDND	-	LONG	82-24-28		
DRLG FLD	BRINE	PLUG BK	-						

INITIAL GAS RECORD

INTERVAL	FLOW	SIP
–		
–		
–		
–		
–		
–		

CASING AND TUBING RECORD

DIAM	WEIGHT	SET AT	HOW SET	RECOV
508	139.9	91.3	CEM	-
340	80.4	402.3	CEM	-
273	67.7	756.5	CEM	-
177.8	34.3	804.7	HAN	-

COMPLETION DATA

GAS	10 ³m³/d
OIL	m³/d
SIP	kPa
FORM	
INTRVL	m
	m
	m
PERF ☐	OPEN HOLE ☐

INITIAL OIL RECORD

INTERVAL	FLOW	DENSITY
–		
–		
–		
–		
–		

LOGGING RECORD

INTERVAL	TYPE	COMPANY
0 – 728.7	CBNB	DRESSER
0 – 730.1	VERL	DRESSER
91.3 – 779.2	CALP	DRESSER
783 – 808	SONR	COMPUTALOG
0 – 728.7	GRL	DRESSER
–		
–		

REMARKS

Ethylene show 85-90 m.
Top of cavern at 783 m
Poor log-sample correlation for some tops

Mineralization -
Native sulfur 190-196

INITIAL WATER RECORD

INTERVAL	STAT LEV	TYPE
–		
–		
–		
–		
–		
–		

CORING RECORD

INTERVAL	LOCATION	NO.	rec.
–			
–			
–			
–			
–			

	GEOLOGICAL CONTACTS	TOP	ELEV	THICK
	KB / LAKE LEVEL--	-		
	DRIFT / LAKE BOTTOM	3.7		
DEVONIAN	PORT LAMBTON	-		
	KETTLE POINT	35.0		
	HAMILTON	50.0		
	MARCELLUS	-		
	DUNDEE	146.0		
	COLUMBUS	-		
	LUCAS	190.0		
	AMHERSTBURG	283.0		
	SYLVANIA	-		
	BOIS BLANC	340.0		
	SPRINGVALE	-		
	ORISKANY	-		
SILURIAN	BASS ISLANDS	370.0		
	G SHALE	433.0		
	F SHALE	440.0		
	F SALT	506.0		
	E CARBONATE	572.0		
	D SALT/EQUIVALENT-	590.0		
	C SHALE	615.0		
	B MARKER	-		
	B EQUIVALENT	-		
	B SALT	637.5		
	B ANHYDRITE	-		
	A2 CARBONATE	732		
	A2 SALT	-		

SILURIAN	A2 ANHYDRITE			
	A1 CARBONATE			
	A1 SALT			
	A1 ANHYDRITE			
	GUELPH			
	ERAMOSA			
	GOAT ISLAND			
	GASPORT/WHARTON			
	DECEW			
	ROCHESTER			
	IRONDEQUOIT			
	REYNALES/FOSSIL HILL			
	THOROLD			
	GRIMSBY			
	CABOT HEAD			
	MANITOULIN			
	WHIRLPOOL			
ORDOVICIAN	QUEENSTON			
	BLUE MOUNTAIN - GEORG BAY			
	COLLINGWOOD			
	COBOURG			
	VERULAM			
	KIRKFIELD			
	COBOCONK			
	GULL RIVER			
	SHADOW LAKE			
CAMBRIAN				
PRECAMBRIAN				

GEOLOGY BY: T.R. CARTER

CTY	Lambton	TWP	Sombra	BLK	-	TRAC	8	LOT 20	CON V
WELL NAME	Ram #90 , Sombra 8-20-V			PERMIT	6965			INIT CLASS	NPW
OPERATOR	Ram Petroleums Ltd.			TARGET	ORD			CUR STATUS	DH-ABD

DRILLING DATA				DATES		COORDINATES		SAMPLES	
CONTRACTOR	Corunna Drilling Ltd.			PERMIT	86-01-10	NORTH	106.7 m	TOP	77
RIG TYPE	ROT	DEPTHS		SPUD	86-01-11	SOUTH	- m	BOT	1186
CABLE TOP	-	KB ELEV	182.0	COMPTD	86-01-24	EAST	- m	TRAY	9147-48
BOT	-	LOGGER	1186.0	OFFCNF	87-01-24	WEST	106.7 m		
ROTRY TOP	3.7	DRILLER	1186.0	WRKOVR	-	LAT	42-33-44.5		
BOT	1186.0	DEEP END	-	ABNDND	86-03-10	LONG	82-19-17		
DRLG FLD	BRINE	PLUG BK	-						

INITIAL GAS RECORD

INTERVAL	FLOW	SIP
–		
–		
–		
–		
–		
–		

CASING AND TUBING RECORD

DIAM	WEIGHT	SET AT	HOW SET	RECOV
299	62.5	74.5	CEM	0
220	35.7	577.0	CEM	225.5

COMPLETION DATA

GAS	10³m³/d
OIL	m³/d
SIP	kPa
FORM	
INTRVL	m
	m
	m

PERF ☒ OPEN HOLE ☐

REMARKS

INITIAL OIL RECORD

INTERVAL	FLOW	DENSITY
–		
–		
–		
–		
–		

LOGGING RECORD

INTERVAL	TYPE	COMPANY
65.0 –1176.0	GRL	SCH
65.0 –1178.8	CNL	"
75.0 –1185.2	LDT	"
75.0 –1181.0	LATL	"
75.0 –1185.7	MSFL	"
560.0 –1182.0	SONL	"
75.0 –1185.0	CYBK	"

INITIAL WATER RECORD

INTERVAL	STAT LEV	TYPE
–		
–		
–		
–		
–		
–		

CORING RECORD

INTERVAL	LOCATION	NO	mm
1038.6 – 1054.6	COM	-	Y
–			
–			
–			
–			

GEOLOGICAL CONTACTS		TOP	ELEV	THICK
	KB / LAKE LEVEL	0.0		
	DRIFT / LAKE BOTTOM	3.7		
DEVONIAN	PORT LAMBTON			
	KETTLE POINT	77.0		
	HAMILTON	110.0		
	MARCELLUS			
	DUNDEE	181.2		
	COLUMBUS			
	LUCAS	209.0		
	AMHERSTBURG	275.0		
	SYLVANIA			
	BOIS BLANC	314.0		
	SPRINGVALE			
	ORISKANY			
SILURIAN	BASS ISLANDS	329.0		
	G SHALE	367.0		
	F SHALE	373.4		
	F SALT			
	E CARBONATE	416.7		
	D SALT/EQUIVALENT			
	C SHALE	451.4		
	B MARKER	473.0		
	B EQUIVALENT	478.6		
	B SALT			
	B ANHYDRITE	486.8		
	A2 CARBONATE	491.0		
	A2 SALT	541.0		
SILURIAN	A2 ANHYDRITE	551.1		
	A1 CARBONATE	553.0		
	A1 SALT			
	A1 ANHYDRITE	581.4		
	GUELPH	585.3		
	ERAMOSA			
	GOAT ISLAND	595.3		
	GASPORT/WIARTON	611.9		
	DECEW			
	ROCHESTER	629.2		
	IRONDEQUOIT			
	REYNALES/FOSSIL HILL	632.0		
	THOROLD			
	GRIMSBY			
	CABOT HEAD	633.3		
	MANITOULIN	677.9		
	WHIRLPOOL			
ORDOVICIAN	QUEENSTON	688.0		
	BLUE MOUNTAIN - GEORG BAY	773.2		
	COLLINGWOOD			
	COBOURG	892.7		
	VERULAM			
	KIRKFIELD			
	COBOCONK	1028.8		
	GULL RIVER			
	SHADOW LAKE	1173.0		
	CAMBRIAN	-		
	PRECAMBRIAN	1175.0		

GEOLOGY BY T. R. Carter

CTY	Lambton	TWP	Sombra	BLK	-	TRAC	1	LOT 21	CON XIII
WELL NAME	Raen Petroleum, Sombra 1-21-XIII			PERMIT	7030			INIT CLASS	NPW
OPERATOR	Raen Petroleum Corp.			TARGET	SAL			CUR STATUS	DH-ABD

DRILLING DATA				DATES		COORDINATES		SAMPLES	
CONTRACTOR	Rawlings Drilling Co. Ltd.			PERMIT	86-07-14	NORTH	- m	TOP	30.0
RIG TYPE	CAB	DEPTHS		SPUD	86-07-09	SOUTH	137.2 m	BOT	657.5
CABLE TOP	1.2	KB ELEV	190.5	COMPTD	86-08-12	EAST	- m	TRAY	8503
BOT	657.5	LOGGER	656.2	OFFCNF	87-08-12	WEST	182.9 m		
ROTRY TOP	–	DRILLER	657.5	WRKOVR	-	LAT	42-44-18		
BOT	–	DEEP END	–	ABNDND	86-08-14	LONG	82-18-39		
DRLG FLD	–	PLUG BK	–						

INITIAL GAS RECORD

INTERVAL	FLOW	SIP
–		
–		
–		
–		
–		
–		

CASING AND TUBING RECORD

DIAM	WEIGHT	SET AT	HOW SET	RECOV
273	60.2	35.4	SHO	35.4
216	35.7	166.1	SHO	166.1
178	34.2	371.9	CEM	305.7

COMPLETION DATA

GAS	10³m³/d
OIL	m³/d
SIP	kPa
FORM	
INTRVL	m
	m
	m

PERF ☐ OPEN HOLE ☐

REMARKS

INITIAL OIL RECORD

INTERVAL	FLOW	DENSITY
–		
–		
–		
–		
–		

LOGGING RECORD

INTERVAL	TYPE	COMPANY
0.0 – 653.8	GRL	COMP
0.0 – 656.2	NEUT	"
–		
–		
–		
–		
–		

INITIAL WATER RECORD

INTERVAL	STAT LEV	TYPE
175.3 – -	45.7	SUL
650.5 – -	577.3	SAL
–		
–		
–		
–		

CORING RECORD

INTERVAL	LOCATION	NO	mm
–			
–			
–			
–			
–			

GEOLOGICAL CONTACTS		TOP	ELEV	THICK
	KB / LAKE LEVEL	0.0		
	DRIFT / LAKE BOTTOM	1.2		
DEVONIAN	PORT LAMBTON			
	KETTLE POINT	29.9		
	HAMILTON	92.0		
	MARCELLUS			
	DUNDEE	162.5		
	COLUMBUS			
	LUCAS	189.0		
	AMHERSTBURG	250.0		
	SYLVANIA			
	BOIS BLANC	308.0		
	SPRINGVALE			
	ORISKANY			
SILURIAN	BASS ISLANDS	323.0		
	G SHALE	358.1		
	F SHALE	364.5		
	F SALT			
	E CARBONATE	407.5		
	D SALT/EQUIVALENT	429.8		
	C SHALE	433.7		
	B MARKER	490.8		
	B EQUIVALENT			
	B SALT	458.4		
	B ANHYDRITE			
	A2 CARBONATE	534.3		
	A2 SALT	575.5		
SILURIAN	A2 ANHYDRITE	599.8		
	A1 CARBONATE	601.7		
	A1 SALT			
	A1 ANHYDRITE	637.3		
	GUELPH	645.0		
	ERAMOSA			
	GOAT ISLAND	650.4		
	GASPORT/WIARTON			
	DECEW			
	ROCHESTER			
	IRONDEQUOIT			
	REYNALES/FOSSIL HILL			
	THOROLD			
	GRIMSBY			
	CABOT HEAD			
	MANITOULIN			
	WHIRLPOOL			
ORDOVICIAN	QUEENSTON			
	BLUE MOUNTAIN - GEORG BAY			
	COLLINGWOOD			
	COBOURG			
	VERULAM			
	KIRKFIELD			
	COBOCONK			
	GULL RIVER			
	SHADOW LAKE			
	CAMBRIAN			
	PRECAMBRIAN			

GEOLOGY BY T. R. Carter

CTY: Lambton	TWP: Sombra	BLK: -	TRAC: -	LOT: 23	CON: IX
WELL NAME: Union Terminus No. 13, Sombra 23-IX		PERMIT: 7024		INIT CLASS: OBS	
OPERATOR: Union Gas Limited		TARGET: SAL		CUR STATUS:	

DRILLING DATA				DATES		COORDINATES		SAMPLES	
CONTRACTOR:	James Newport Drilling Ltd.			PERMIT	86-06-17	NORTH	449.6 m	TOP	28.0
RIG TYPE:	CAB	DEPTHS		SPUD	86-07-02	SOUTH	449.6 m	BOT	556.0
CABLE TOP:	1.2	KB ELEV:	188.2	COMPTD	86-09-11	EAST	259.1 m	TRAY	9604
BOT	556.0	LOGGER:	555.2	OFFCNF	86-10-11	WEST	259.1 m		
ROTRY TOP:	-	DRILLER:	556.0	WRKOVR	-	LAT	42-40-53		
BOT	-	DEEP END:	-	ABNDND	-	LONG	82-17-57		
DRLG FLD:	-	PLUG BK:	-						

INITIAL GAS RECORD			CASING AND TUBING RECORD					COMPLETION DATA	
INTERVAL	FLOW	SIP	DIAM	WEIGHT	SET AT	HOW SET	RECOV		
540 – 556	-	5300	340	71.4	27.6	SHO	0	GAS	- 10³m³/d
–			273	60.3	157.4	SHO	157.4	OIL	- m³/d
–			219	35.7	345.7	CEM	0	SIP	5300 kPa
–			178	34.2	536.6	CEM	0	FORM:	Guelph
–								INTRVL	540.0 - 556.0 m
–									m

INITIAL OIL RECORD			LOGGING RECORD			PERF ☐	OPEN HOLE ☐
INTERVAL	FLOW	DENSITY	INTERVAL	TYPE	COMPANY	REMARKS	
–			0.0 – 553.3	GRL	COMP		
–			0.0 – 555.2	NEUT	"		
–			536 – 555.2	DENL	"		
–			0.0 – 330.0	CBND	"		
–			0.0 – 518.0	CBND	"		

INITIAL WATER RECORD			CORING RECORD			
INTERVAL	STAT LEV	TYPE	INTERVAL	LOCATION	NO	mm
27 – -	-	FRE	–			
171 – -	50	SUL	–			

GEOLOGICAL CONTACTS		TOP	ELEV	THICK			TOP	ELEV	THICK
	KB / LAKE LEVEL	0.0			SILURIAN	A2 ANHYDRITE	535.8		
	DRIFT / LAKE BOTTOM	1.2				A1 CARBONATE			
DEVONIAN	PORT LAMBTON					A1 SALT			
	KETTLE POINT	27.0				A1 ANHYDRITE			
	HAMILTON	91.7				GUELPH	539.2		
	MARCELLUS					ERAMOSA			
	DUNDEE	158.0				GOAT ISLAND			
	COLUMBUS					GASPORT/WIARTON			
	LUCAS	178.7				DECEW			
	AMHERSTBURG	232.0				ROCHESTER			
	SYLVANIA					IRONDEQUOIT			
	BOIS BLANC	293.0				REYNALES/FOSSIL HILL			
	SPRINGVALE					THOROLD			
	ORISKANY					GRIMSBY			
SILURIAN	BASS ISLANDS	302.0				CABOT HEAD			
	G SHALE	336.0				MANITOULIN			
	F SHALE	342.7				WHIRLPOOL			
	F SALT				ORDOVICIAN	QUEENSTON			
	E CARBONATE	385.4				BLUE MOUNTAIN - GEORG BAY			
	D SALT/EQUIVALENT	406.8				COLLINGWOOD			
	C SHALE	410.3				COBOURG			
	B MARKER	422.8				VERULAM			
	B EQUIVALENT					KIRKFIELD			
	B SALT	433.8				COBOCONK			
	B ANHYDRITE					GULL RIVER			
	A2 CARBONATE	492.0				SHADOW LAKE			
	A2 SALT	527.0				CAMBRIAN			
						PRECAMBRIAN			

GEOLOGY BY: T. R. Carter

CTY: Lambton	TWP: Sombra	BLK: -	TRAC: 7	LOT: 23	CON: XIII
WELL NAME: Bratt Bro Sombra 7-23-XIII		PERMIT: 6934		INIT CLASS: DEV	
OPERATOR: H. Bratt & Associates		TARGET: SAL		CUR STATUS: GP	

DRILLING DATA				DATES		COORDINATES		SAMPLES	
CONTRACTOR:	J. Newport			PERMIT	85-11-14	NORTH	113.1 m	TOP	46
RIG TYPE:	CAB	DEPTHS		SPUD	85-11-20	SOUTH	- m	BOT	624
CABLE TOP:	2.2	KB ELEV:	192.6	COMPTD	86-01-07	EAST	193.6 m	TRAY	8338
BOT	624	LOGGER:	618.4	OFFCNF	86-02-06	WEST	- m		
ROTRY TOP:	-	DRILLER:	624	WRKOVR	-	LAT	42-43-41		
BOT	-	DEEP END:	-	ABNDND	-	LONG	82-17-57		
DRLG FLD:	WATER	PLUG BK:	-						

INITIAL GAS RECORD			CASING AND TUBING RECORD					COMPLETION DATA	
INTERVAL	FLOW	SIP	DIAM	WEIGHT	SET AT	HOW SET	RECOV		
614 – -	3.06	-	273	60.3	42.6	SHO	0	GAS	255.0 10³m³/d
615 – 624	255.0	6536	219	35.7	158.2	SHO	0	OIL	- m³/d
–			178	29.8	361.5	CEM	83.9	SIP	6536 kPa
–			140	25.3	613.0	CEM	0	FORM:	Guelph
–								INTRVL	614.0 - 624.0 m
–									m

INITIAL OIL RECORD			LOGGING RECORD			PERF ☐	OPEN HOLE ☒
INTERVAL	FLOW	DENSITY	INTERVAL	TYPE	COMPANY	REMARKS	
–			0 – 616.3	GRL	COMP		
–			0 – 618.4	NEUT	"		
–			611.4 – 618.4	DENL	"		

INITIAL WATER RECORD			CORING RECORD			
INTERVAL	STAT LEV	TYPE	INTERVAL	LOCATION	NO	mm
37 – -	-	FRE	–			
189 – 192	53	SUL	–			

GEOLOGICAL CONTACTS		TOP	ELEV	THICK			TOP	ELEV	THICK
	KB / LAKE LEVEL	0			SILURIAN	A2 ANHYDRITE	580.3		
	DRIFT / LAKE BOTTOM	1.2				A1 CARBONATE	580.9		
DEVONIAN	PORT LAMBTON					A1 SALT			
	KETTLE POINT	46.0				A1 ANHYDRITE	613.6		
	HAMILTON	87.5				GUELPH	614.5		
	MARCELLUS					ERAMOSA			
	DUNDEE	153.6				GOAT ISLAND			
	COLUMBUS					GASPORT/WIARTON			
	LUCAS	187.0				DECEW			
	AMHERSTBURG	247.0				ROCHESTER			
	SYLVANIA					IRONDEQUOIT			
	BOIS BLANC	296.0				REYNALES/FOSSIL HILL			
	SPRINGVALE	305.5				THOROLD			
	ORISKANY					GRIMSBY			
SILURIAN	BASS ISLANDS	307.0				CABOT HEAD			
	G SHALE	349.0				MANITOULIN			
	F SHALE	355.7				WHIRLPOOL			
	F SALT				ORDOVICIAN	QUEENSTON			
	E CARBONATE	398.7				BLUE MOUNTAIN - GEORG BAY			
	D SALT/EQUIVALENT	420.9				COLLINGWOOD			
	C SHALE	424.6				COBOURG			
	B MARKER	440.4				VERULAM			
	B EQUIVALENT					KIRKFIELD			
	B SALT	447.1				COBOCONK			
	B ANHYDRITE					GULL RIVER			
	A2 CARBONATE	525.5				SHADOW LAKE			
	A2 SALT	562.7				CAMBRIAN			
						PRECAMBRIAN			

GEOLOGY BY: T. R. Carter

CTY	Lambton	TWP	Sombra	BLK	-	TRAC	-	LOT	26	CON	V
WELL NAME	Ram 89, Sombra 2-26-V			PERMIT	6962			INIT CLASS	NPW		
OPERATOR	Ram Petroleums Limited			TARGET	ORD			CUR STATUS	GS-ABD		

DRILLING DATA				DATES		COORDINATES			SAMPLES	
CONTRACTOR	Rawlings Drilling Co. Ltd.			PERMIT	85-12-31	NORTH	-	m	TOP	42.0
RIG TYPE	CAB	DEPTHS		SPUD	85-12-31	SOUTH	228.6	m	BOT	1185.7
CABLE TOP	1.2	KB ELEV	183.5	COMPTD	86-05-14	EAST	106.7	m	TRAY	9145-
BOT	1186.0	LOGGER	1184.0	OFFCNF	87-05-14	WEST	-	m		46
ROTRY TOP	-	DRILLER	1186.0	WRKOVR	-	LAT	42-38-15			
BOT	-	DEEP END	-	ABNDND	86-07-11	LONG	82-16-51			
DRLG FLD	-	PLUG BK	-							

INITIAL GAS RECORD

INTERVAL	FLOW	SIP
1025.0 – 1050.0	-	-
–		
–		
–		
–		
–		

CASING AND TUBING RECORD

DIAM	WEIGHT	SET AT	HOW SET	RECOV
340	71.4	41.4	SHO	41.4
273	60.0	200.4	SHO	200.4
219	35.7	403.4	PAC	384.5
178	29.7	653.8	CEM	559.6

COMPLETION DATA

GAS		$10^3 m^3/d$
OIL		m^3/d
SIP		kPa
FORM		
INTRVL		m
		m
		m
PERF ☐		OPEN HOLE ☒

REMARKS

INITIAL OIL RECORD

INTERVAL	FLOW	DENSITY
–		
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LOGGING RECORD

INTERVAL	TYPE	COMPANY
30.0 – 1183.0	GRL	SCH
650.0 – 1176.0	CNL	"
650.0 – 1183.0	LDT	"
408.0 – 1183.0	CBVD	"
30.0 – 1179.0	SONL	"
650.0 – 1179.5	LATL	"
650.0 – 1183.0	MSFL	"

INITIAL WATER RECORD

INTERVAL	STAT LEV	TYPE
222.5 – -	51.8	SUL
–		
–		
–		
–		
–		

CORING RECORD

INTERVAL	LOCATION	NO.	mm
–			
–			
–			
–			
–			

GEOLOGICAL CONTACTS		TOP	ELEV	THICK
	KB / LAKE LEVEL	0.0		
	DRIFT / LAKE BOTTOM	1.2		
DEVONIAN	PORT LAMBTON			
	KETTLE POINT	40.0		
	HAMILTON	130.2		
	MARCELLUS			
	DUNDEE	196.7		
	COLUMBUS			
	LUCAS	222.5		
	AMHERSTBURG	274.0		
	SYLVANIA			
	BOIS BLANC	326.0		
	SPRINGVALE			
	ORISKANY			
SILURIAN	BASS ISLANDS	341.0		
	G SHALE	380.4		
	F SHALE	386.8		
	F SALT			
	E CARBONATE	430.5		
	D SALT/EQUIVALENT			
	C SHALE	459.3		
	B MARKER	471.0		
	B EQUIVALENT	474.9		
	B SALT	485.8		
	B ANHYDRITE			
	A2 CARBONATE	494.0		
	A2 SALT	535.1		
SILURIAN	A2 ANHYDRITE	539.5		
	A1 CARBONATE	544.0		
	A1 SALT			
	A1 ANHYDRITE	577.2		
	GUELPH	580.2		
	ERAMOSA			
	GOAT ISLAND	588.8		
	GASPORT/WIARTON	600.5		
	DECEW			
	ROCHESTER	619.5		
	IRONDEQUOIT			
	REYNALES/FOSSIL HILL	627.2		
	THOROLD			
	GRIMSBY			
	CABOT HEAD	628.2		
	MANITOULIN	668.2		
	WHIRLPOOL			
ORDOVICIAN	QUEENSTON	678.0		
	BLUE MOUNTAIN - GEORG BAY	765.6		
	COLLINGWOOD			
	COBOURG	886.6		
	VERULAM	892.8		
	KIRKFIELD	977.4		
	COBOCONK	1026.5		
	GULL RIVER	1059.9		
	SHADOW LAKE			
	CAMBRIAN			
	PRECAMBRIAN	1168.7		

GEOLOGY BY T. R. Carter

CTY	Lambton	TWP	Sombra	BLK	-	TRAC	-	LOT	7	CON	XII
WELL NAME	Union Bickford No. 34, Sombra 7-XII			PERMIT	7019			INIT CLASS	OBS		
OPERATOR	Union Gas Limited			TARGET	SAL			CUR STATUS	OBS		

DRILLING DATA				DATES		COORDINATES			SAMPLES	
CONTRACTOR	James Newport Drilling Ltd.			PERMIT	86-06-05	NORTH	-	m	TOP	51.0
RIG TYPE	CAB	DEPTHS		SPUD	86-07-07	SOUTH	524.0	m	BOT	641.0
CABLE TOP	1.2	KB ELEV	186.1	COMPTD	86-08-29	EAST	198.0	m	TRAY	9635
BOT	641.0	LOGGER	640.7	OFFCNF	86-09-28	WEST	-	m		
ROTRY TOP	-	DRILLER	641.0	WRKOVR	-	LAT	42-43-28			
BOT	-	DEEP END	-	ABNDND	-	LONG	82-25-03			
DRLG FLD	-	PLUG BK	-							

INITIAL GAS RECORD

INTERVAL	FLOW	SIP
632.0 – 636.0	-	7000
50 – -	-	-
–		
–		
–		
–		

CASING AND TUBING RECORD

DIAM	WEIGHT	SET AT	HOW SET	RECOV
340	71.4	53.7	SHO	0
273	60,3	186,9	SHO	186,9
219	35,7	390,2	CEM	0
140	34,2	631,9	CEM	0

COMPLETION DATA

GAS	-	$10^3 m^3/d$
OIL	-	m^3/d
SIP	7000	kPa
FORM	A1 Carbonate	
INTRVL	632,0 -	m
		m
		m
PERF ☐		OPEN HOLE ☐

REMARKS

Anhydrite at top of A2 Salt.

INITIAL OIL RECORD

INTERVAL	FLOW	DENSITY
–		
–		
–		
–		
–		

LOGGING RECORD

INTERVAL	TYPE	COMPANY
0.0 – 638.6	GRL	COMP
0.0 – 640.7	NEUT	"
0,0 – 621.5	CBND	"
0.0 – 376,0	CBND	"
–		
–		
–		

INITIAL WATER RECORD

INTERVAL	STAT LEV	TYPE
46 – -	-	FRE
217 – 220	57	SUL
–		
–		
–		
–		

CORING RECORD

INTERVAL	LOCATION	NO.	mm
–			
–			
–			
–			
–			

GEOLOGICAL CONTACTS		TOP	ELEV	THICK
	KB / LAKE LEVEL	0.0		
	DRIFT / LAKE BOTTOM	1.2		
DEVONIAN	PORT LAMBTON			
	KETTLE POINT	50.0		
	HAMILTON	115.0		
	MARCELLUS			
	DUNDEE	183.9		
	COLUMBUS			
	LUCAS	212.0		
	AMHERSTBURG	282.0		
	SYLVANIA			
	BOIS BLANC	330.0		
	SPRINGVALE			
	ORISKANY			
SILURIAN	BASS ISLANDS	347.5		
	G SHALE	382.3		
	F SHALE	389.4		
	F SALT			
	E CARBONATE	434.7		
	D SALT/EQUIVALENT	457.2		
	C SHALE	461.3		
	B MARKER	475.5		
	B EQUIVALENT			
	B SALT	483.0		
	B ANHYDRITE			
	A2 CARBONATE	564.0		
	A2 SALT	602.2		
SILURIAN	A2 ANHYDRITE	624.6		
	A1 CARBONATE	628.0		
	A1 SALT			
	A1 ANHYDRITE			
	GUELPH			
	ERAMOSA			
	GOAT ISLAND			
	GASPORT/WIARTON			
	DECEW			
	ROCHESTER			
	IRONDEQUOIT			
	REYNALES/FOSSIL HILL			
	THOROLD			
	GRIMSBY			
	CABOT HEAD			
	MANITOULIN			
	WHIRLPOOL			
ORDOVICIAN	QUEENSTON			
	BLUE MOUNTAIN - GEORG BAY			
	COLLINGWOOD			
	COBOURG			
	VERULAM			
	KIRKFIELD			
	COBOCONK			
	GULL RIVER			
	SHADOW LAKE			
	CAMBRIAN			
	PRECAMBRIAN			

GEOLOGY BY T. R. Carter

CTY:	Lambton	TWP:	Warwick	BLK:	-	TRAC:	3	LOT:	26	CON:	VI S.E.R.
WELL NAME	Chatham Res 3, Warwick 1-3-26- VI S.E.R.			PERMIT	7080			INIT CLASS:	DEV		
OPERATOR	Chatham Resources Ltd.			TARGET	DEV			CUR STATUS:	O.P.		

DRILLING DATA				DATES		COORDINATES			SAMPLES	
CONTRACTOR	Eagle Drilling Services			PERMIT	86-12-09	NORTH	919.4	m	TOP	39.3 m
RIG TYPE	ROT	DEPTHS		SPUD	86-12-12	SOUTH	-	m	BOT	132.6
CABLE TOP	-	KB ELEV	246.0	COMPTD	86-12-14	EAST	240,8 m	m	TRAY	2112
BOT	-	LOGGER	130.9 m	OFFCNF	87-01-13	WEST	-	m		
ROTRY TOP	0.9	DRILLER	132.0 m	WRKOVR	-	LAT	42-56-22			
BOT	132.0 m	DEEP END	-	ABNDND	-	LONG	81-49-27			
DRLG FLD	WATER	PLUG BK	-							

INITIAL GAS RECORD		
INTERVAL	FLOW	SIP
126.5 – 128.9	-	
–		
–		
–		
–		
–		

CASING AND TUBING RECORD				
DIAM	WEIGHT	SET AT	HOW SET	RECOV
177.8	25.3	39.0	CEM	0
114.3	14.1	116.7	CEM	-

COMPLETION DATA	
GAS	10³m³/d
OIL	m³/d
SIP	kPa
FORM	
INTRVL	m
	m
	m
PERF ☐	OPEN HOLE ☒
REMARKS	

INITIAL OIL RECORD		
INTERVAL	FLOW	DENSITY
128.9 – -	31.8	
–		
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LOGGING RECORD		
INTERVAL	TYPE	COMPANY
0.9 – 128.3	GRL	COMPUTALOG
0.9 – 130.9	NEUT	"
37.5 – 130.9	DENL	"
–		
–		
–		

INITIAL WATER RECORD		
INTERVAL	STAT LEV	TYPE
98.5 – -	-	FR
–		
–		
–		
–		
–		

CORING RECORD			
INTERVAL	LOCATION	NO.	mm
–			
–			
–			
–			
–			

	GEOLOGICAL CONTACTS	TOP	ELEV	THICK
	KB / LAKE LEVEL	0		
	DRIFT / LAKE BOTTOM	0.9		
DEVONIAN	PORT LAMBTON	-		
	KETTLE POINT	35.4		
	HAMILTON	36.9		
	MARCELLUS	-		
	DUNDEE	114.3		
	COLUMBUS			
	LUCAS			
	AMHERSTBURG			
	SYLVANIA			
	BOIS BLANC			
	SPRINGVALE			
	ORISKANY			
SILURIAN	BASS ISLANDS			
	G SHALE			
	F SHALE			
	F SALT			
	E CARBONATE			
	D SALT/EQUIVALENT			
	C SHALE			
	B MARKER			
	B EQUIVALENT			
	B SALT			
	B ANHYDRITE			
	A2 CARBONATE			
	A2 SALT			

SILURIAN	A2 ANHYDRITE			
	A1 CARBONATE			
	A1 SALT			
	A1 ANHYDRITE			
	GUELPH			
	ERAMOSA			
	GOAT ISLAND			
	GASPORT/WHARTON			
	DECEW			
	ROCHESTER			
	IRONDEQUOIT			
	REYNALES/FOSSIL HILL			
	THOROLD			
	GRIMSBY			
	CABOT HEAD			
	MANITOULIN			
	WHIRLPOOL			
ORDOVICIAN	QUEENSTON			
	BLUE MOUNTAIN - GEORG. BAY			
	COLLINGWOOD			
	COBOURG			
	VERULAM			
	KIRKFIELD			
	COBOCONK			
	GULL RIVER			
	SHADOW LAKE			
	CAMBRIAN			
	PRECAMBRIAN			

GEOLOGY BY T.R. Carter

CTY:	Lambton	TWP:	Warwick	BLK:	-	TRAC:	3	LOT:	26	CON:	VI SER
WELL NAME	Chatham 1, Warwick 2-3-26-VI SER			PERMIT	7009			INIT CLASS:	DEV		
OPERATOR	W.T. Chatham Associates Ltd.			TARGET	DEV			CUR STATUS:	OP		

DRILLING DATA				DATES		COORDINATES			SAMPLES	
CONTRACTOR	Ron Smith Drilling			PERMIT	86-03-26	NORTH	922.0	m	TOP	35.0
RIG TYPE	ROT	DEPTHS		SPUD	86-03-26	SOUTH	-	m	BOT	132.9
CABLE TOP	-	KB ELEV	245,0	COMPTD	86-04-02	EAST	75.4	m	TRAY	381
BOT	-	LOGGER	137.9	OFFCNF	86-05-02	WEST	-	m		
ROTRY TOP	0,0	DRILLER	138.0	WRKOVR	-	LAT	42-56-22			
BOT	138,1	DEEP END	-	ABNDND	-	LONG	81-49-34			
DRLG FLD	-	PLUG BK	-							

INITIAL GAS RECORD		
INTERVAL	FLOW	SIP
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–		
–		
–		

CASING AND TUBING RECORD				
DIAM	WEIGHT	SET AT	HOW SET	RECOV
114	14.1	117.1	CEM	0

COMPLETION DATA	
GAS	10³m³/d
OIL	m³/d
SIP	kPa
FORM	
INTRVL	m
	m
	m
PERF ☐	OPEN HOLE ☒
REMARKS	

INITIAL OIL RECORD		
INTERVAL	FLOW	DENSITY
120,7 – 137,8	5.5	0,858
–		
–		
–		
–		

LOGGING RECORD		
INTERVAL	TYPE	COMPANY
0.0 – 135.3	GRL	COM
0.0 – 137.8	NEUT	"
117.1 – 134.1	DENL	"
–		
–		
–		

INITIAL WATER RECORD		
INTERVAL	STAT LEV	TYPE
30.5 – -	-	FRE
–		
–		
–		
–		
–		

CORING RECORD			
INTERVAL	LOCATION	NO.	mm
–			
–			
–			
–			
–			

	GEOLOGICAL CONTACTS	TOP	ELEV	THICK
	KB / LAKE LEVEL	0.0		
	DRIFT / LAKE BOTTOM	0.0		
DEVONIAN	PORT LAMBTON			
	KETTLE POINT	32.0		
	HAMILTON	35.1		
	MARCELLUS			
	DUNDEE	115.8		
	COLUMBUS			
	LUCAS			
	AMHERSTBURG			
	SYLVANIA			
	BOIS BLANC			
	SPRINGVALE			
	ORISKANY			
SILURIAN	BASS ISLANDS			
	G SHALE			
	F SHALE			
	F SALT			
	E CARBONATE			
	D SALT/EQUIVALENT			
	C SHALE			
	B MARKER			
	B EQUIVALENT			
	B SALT			
	B ANHYDRITE			
	A2 CARBONATE			
	A2 SALT			

SILURIAN	A2 ANHYDRITE			
	A1 CARBONATE			
	A1 SALT			
	A1 ANHYDRITE			
	GUELPH			
	ERAMOSA			
	GOAT ISLAND			
	GASPORT/WHARTON			
	DECEW			
	ROCHESTER			
	IRONDEQUOIT			
	REYNALES/FOSSIL HILL			
	THOROLD			
	GRIMSBY			
	CABOT HEAD			
	MANITOULIN			
	WHIRLPOOL			
ORDOVICIAN	QUEENSTON			
	BLUE MOUNTAIN - GEORG. BAY			
	COLLINGWOOD			
	COBOURG			
	VERULAM			
	KIRKFIELD			
	COBOCONK			
	GULL RIVER			
	SHADOW LAKE			
	CAMBRIAN			
	PRECAMBRIAN			

GEOLOGY BY T. R. Carter

CTY Lambton	TWP Warwick	BLK -	TRAC 3	LOT 26	CON VI S.E.R.		
WELL NAME Chatham Res, 4, Warwick 3-3-26 -VI S,E,R,		PERMIT 7081		INIT CLASS DEV			
OPERATOR Chatham Resources Ltd.		TARGET DEV		CUR STATUS O.P.			

DRILLING DATA		DATES	COORDINATES	SAMPLES
CONTRACTOR Eagle Drilling Service		PERMIT 86-12-09	NORTH 734.9 m	TOP 39.6 m
RIG TYPE Rotary	DEPTHS	SPUD 86-12-15	SOUTH - m	BOT 135.9 m
CABLE TOP -	KB ELEV 242.1 m	COMPTD 86-12-18	EAST 76.2 m	TRAY 2112
BOT -	LOGGER 134.7 m	OFFCNF 87-01-17	WEST - m	
ROTRY TOP 0.9 m	DRILLER 135,6 m	WRKOVR 87 - 06-24	LAT 42-56-16	
BOT 135.6 m	DEEP END -	ABNDND -	LONG 81-49-34	
DRLG FLD Water	PLUG BK -			

INITIAL GAS RECORD

INTERVAL	FLOW	SIP
–		
–		
–		
–		
–		
–		

CASING AND TUBING RECORD

DIAM	WEIGHT	SET AT	HOW SET	RECOV
177,8	25,3	39,0	CEM	-
114,3	14,1	114,9	CEM	

COMPLETION DATA

GAS 10 ³m³/d
OIL 0.13 m³/d
SIP kPa
FORM Dundee
INTRVL 133 to 133.8 m
m
m
PERF ☐ OPEN HOLE ☒

REMARKS

INITIAL OIL RECORD

INTERVAL	FLOW	DENSITY
133,8 – 135,6		
–		
–		
–		
–		

LOGGING RECORD

INTERVAL	TYPE	COMPANY
0,9 – 132,6	GRL	Computalog
0.9 – 134,7	NEUT	"
113,7 – 134,7	DENL	"
–		
–		
–		
–		

INITIAL WATER RECORD

INTERVAL	STAT LEV	TYPE
40,5 – -		FR
–		
–		
–		
–		
–		

CORING RECORD

INTERVAL	LOCATION	NO	mm
–			
–			
–			
–			
–			

	GEOLOGICAL CONTACTS	TOP	ELEV	THICK
	KB / LAKE LEVEL	0		
	DRIFT / LAKE BOTTOM	0.9		
DEVONIAN	PORT LAMBTON	-		
	KETTLE POINT	32.6		
	HAMILTON	36.9		
	MARCELLUS	-		
	DUNDEE	111.9		
	COLUMBUS			
	LUCAS			
	AMHERSTBURG			
	SYLVANIA			
	BOIS BLANC			
	SPRINGVALE			
	ORISKANY			
SILURIAN	BASS ISLANDS			
	G SHALE			
	F SHALE			
	F SALT			
	E CARBONATE			
	D SALT/EQUIVALENT			
	C SHALE			
	B MARKER			
	B EQUIVALENT			
	B SALT			
	B ANHYDRITE			
	A2 CARBONATE			
	A2 SALT			
SILURIAN	A2 ANHYDRITE			
	A1 CARBONATE			
	A1 SALT			
	A1 ANHYDRITE			
	GUELPH			
	ERAMOSA			
	GOAT ISLAND			
	GASPORT/WIARTON			
	DECEW			
	ROCHESTER			
	IRONDEQUOIT			
	REYNALES/FOSSIL HILL			
	THOROLD			
	GRIMSBY			
	CABOT HEAD			
	MANITOULIN			
	WHIRLPOOL			
ORDOVICIAN	QUEENSTON			
	BLUE MOUNTAIN - GEORG. BAY			
	COLLINGWOOD			
	COBOURG			
	VERULAM			
	KIRKFIELD			
	COBOCONK			
	GULL RIVER			
	SHADOW LAKE			
	CAMBRIAN			
	PRECAMBRIAN			

GEOLOGY BY T.R. Carter

CTY Lambton	TWP Warwick	BLK	TRAC 3	LOT 26	CON VI SER		
WELL NAME Chatham 2 Warwick 4-3-26-VI SER		PERMIT 7010		INIT CLASS DEV			
OPERATOR W.T. Chatham Associates Ltd.		TARGET DEV		CUR STATUS OP			

DRILLING DATA		DATES	COORDINATES	SAMPLES
CONTRACTOR Ron Smith Drilling		PERMIT 86-03-26	NORTH 733.7 m	TOP 36.0
RIG TYPE ROT	DEPTHS	SPUD 86-03-29	SOUTH - m	BOT 138.1
CABLE TOP -	KB ELEV 244.4	COMPTD 86-03-31	EAST 239.4 m	TRAY 452
BOT -	LOGGER 138.1	OFFCNF 86-04-	WEST - m	
ROTRY TOP 0.0	DRILLER 138.1	WRKOVR -	LAT 42-56-16	
BOT 138.1	DEEP END -	ABNDND -	LONG 81-49-26	
DRLG FLD -	PLUG BK -			

INITIAL GAS RECORD

INTERVAL	FLOW	SIP
–		
–		
–		
–		
–		
–		

CASING AND TUBING RECORD

DIAM	WEIGHT	SET AT	HOW SET	RECOV
114	14.1	116.1	CEM	0

COMPLETION DATA

GAS 10 ³m³/d
OIL m³/d
SIP kPa
FORM
INTRVL m
m
m
PERF ☐ OPEN HOLE ☒

REMARKS

INITIAL OIL RECORD

INTERVAL	FLOW	DENSITY
120.7 – 138.1	4.4	0.841
–		
–		
–		
–		

LOGGING RECORD

INTERVAL	TYPE	COMPANY
0.0 – 136.6	GRL	COM
0.0 – 138.1	NEUT	"
116.1 – 137.2	DENL	"
–		
–		
–		
–		

INITIAL WATER RECORD

INTERVAL	STAT LEV	TYPE
29.9 – -	-	FRE
–		
–		
–		
–		
–		

CORING RECORD

INTERVAL	LOCATION	NO	mm
–			
–			
–			
–			
–			

	GEOLOGICAL CONTACTS	TOP	ELEV	THICK
	KB / LAKE LEVEL	0.0		
	DRIFT / LAKE BOTTOM	0.0		
DEVONIAN	PORT LAMBTON			
	KETTLE POINT			
	HAMILTON	33.8		
	MARCELLUS			
	DUNDEE	115.2		
	COLUMBUS			
	LUCAS			
	AMHERSTBURG			
	SYLVANIA			
	BOIS BLANC			
	SPRINGVALE			
	ORISKANY			
SILURIAN	BASS ISLANDS			
	G SHALE			
	F SHALE			
	F SALT			
	E CARBONATE			
	D SALT/EQUIVALENT			
	C SHALE			
	B MARKER			
	B EQUIVALENT			
	B SALT			
	B ANHYDRITE			
	A2 CARBONATE			
	A2 SALT			
SILURIAN	A2 ANHYDRITE			
	A1 CARBONATE			
	A1 SALT			
	A1 ANHYDRITE			
	GUELPH			
	ERAMOSA			
	GOAT ISLAND			
	GASPORT/WIARTON			
	DECEW			
	ROCHESTER			
	IRONDEQUOIT			
	REYNALES/FOSSIL HILL			
	THOROLD			
	GRIMSBY			
	CABOT HEAD			
	MANITOULIN			
	WHIRLPOOL			
ORDOVICIAN	QUEENSTON			
	BLUE MOUNTAIN - GEORG. BAY			
	COLLINGWOOD			
	COBOURG			
	VERULAM			
	KIRKFIELD			
	COBOCONK			
	GULL RIVER			
	SHADOW LAKE			
	CAMBRIAN			
	PRECAMBRIAN			

GEOLOGY BY T. R. Carter

CTY	Manitoulin	TWP	Sandfield	BLK	-	TRAC	4	LOT	9	CON	V
WELL NAME	TLX Robin No.1, Sandfield 4-9-V					PERMIT	7023	INIT CLASS	NPW		
OPERATOR	William Klenk					TARGET	ORD	CUR STATUS	GS-BP		

DRILLING DATA				DATES		COORDINATES			SAMPLES	
CONTRACTOR	Charles Stevenson - J. Wright			PERMIT	86-06-12	NORTH	168.8	m	TOP	168.8
RIG TYPE	CAB/ROT	DEPTHS		SPUD	86-06-13	SOUTH	-	m	BOT	293.7
CABLE TOP	0.9	KB ELEV	236.9	COMPTD	86-06-18	EAST	293.7	m	TRAY	6687- 71
BOT	355.7	LOGGER	-	OFFCNF	87-06-18	WEST	-	m		
ROTRY TOP	-	DRILLER	355.7	WRKOVR	-	LAT				
BOT	-	DEEP END	-	ABNDND	-	LONG				
DRLG FLD	-	PLUG BK	-							

INITIAL GAS RECORD			CASING AND TUBING RECORD					COMPLETION DATA	
INTERVAL	FLOW	SIP	DIAM	WEIGHT	SET AT	HOW SET	RECOV	GAS	10³m³/d
260 - -	-	276	219	41.7	64.2	CEM	0	OIL	m³/d
-								SIP	kPa
-								FORM	
-								INTRVL	m
-									m
-									m

INITIAL OIL RECORD			LOGGING RECORD			COMPLETION DATA
INTERVAL	FLOW	DENSITY	INTERVAL	TYPE	COMPANY	PERF ☐ OPEN HOLE ☐
-			-			REMARKS
-			-			
-			-			
-			-			
-			-			
			-			

INITIAL WATER RECORD			CORING RECORD			
INTERVAL	STAT LEV	TYPE	INTERVAL	LOCATION	NO	rec
13.7 - -	-	FRE	-			
32.0 - -	-	FRE	-			
61.0 - -	-	BRA	-			
345.0 - 349.6	305.7	SAL	-			
-			-			

GEOLOGICAL CONTACTS		TOP	ELEV	THICK
	KB / LAKE LEVEL	0		
	DRIFT / LAKE BOTTOM			
DEVONIAN	PORT LAMBTON			
	KETTLE POINT			
	HAMILTON			
	MARCELLUS			
	DUNDEE			
	COLUMBUS			
	LUCAS			
	AMHERSTBURG			
	SYLVANIA			
	BOIS BLANC			
	SPRINGVALE			
	ORISKANY			
SILURIAN	BASS ISLANDS			
	G SHALE			
	F SHALE			
	F SALT			
	E CARBONATE			
	D SALT/EQUIVALENT			
	C SHALE			
	B MARKER			
	B EQUIVALENT			
	B SALT			
	B ANHYDRITE			
	A2 CARBONATE			
	A2 SALT			

SILURIAN	A2 ANHYDRITE			
	A1 CARBONATE			
	A1 SALT			
	A1 ANHYDRITE			
	GUELPH			
	ERAMOSA			
	GOAT ISLAND			
	GASPORT/WIARTON			
	DECEW			
	ROCHESTER			
	IRONDEQUOIT			
	REYNALES/FOSSIL HILL	0.9		
	~~THOROLD~~		St. Edmund	21.0
	~~GRIMSBY~~		Wing Field	36.0
	CABOT HEAD	53.0	Dyer Bay	39.0
	MANITOULIN	73.0		
	WHIRLPOOL			
ORDOVICIAN	Kagawong	88.0		
	BLUE MOUNTAIN - GEORG BAY	124.0		
	COLLINGWOOD	225.0		
	COBOURG	232.5		
	VERULAM	260.0		
	KIRKFIELD	282.5		
	COBOCONK	300.5		
	GULL RIVER	310.9		
	SHADOW LAKE	342.0		
CAMBRIAN		345.6		
PRECAMBRIAN		348.8		

GEOLOGY BY: T. R. Carter

CTY	Middlesex	TWP	Caradoc	BLK	-	TRAC	1-2	LOT	6	CON	VI
WELL NAME	C.G. Oil #7, Caradoc 1-2-6-VI					PERMIT	6940	INIT CLASS	NPW		
OPERATOR	C.G. Oil Exploration Inc.					TARGET	DEV	CUR STATUS	OS-ABD		

DRILLING DATA				DATES		COORDINATES			SAMPLES	
CONTRACTOR	Elgin Mitchell & Sons			PERMIT	85-11-28	NORTH	-	m	TOP	-
RIG TYPE	ROT	DEPTHS		SPUD	85-11-29	SOUTH	106.4	m	BOT	-
CABLE TOP	-	KB ELEV	227.4	COMPTD	86-01-30	EAST	-	m	TRAY	
BOT	-	LOGGER	-	OFFCNF	87-01-30	WEST	363.0	m		
ROTRY TOP	1.0	DRILLER	120.7	WRKOVR	-	LAT	42-53-38			
BOT	120.7	DEEP END	-	ABNDND	86-02-00	LONG	81-36-37			
DRLG FLD	-	PLUG BK	-							

INITIAL GAS RECORD			CASING AND TUBING RECORD					COMPLETION DATA	
INTERVAL	FLOW	SIP	DIAM	WEIGHT	SET AT	HOW SET	RECOV	GAS	10³m³/d
-			203	-	57.9	CEM	0	OIL	m³/d
-			127	-	94.5	CEM	67.1	SIP	kPa
-								FORM	
-								INTRVL	m
-									m
-									m

INITIAL OIL RECORD			LOGGING RECORD			COMPLETION DATA
INTERVAL	FLOW	DENSITY	INTERVAL	TYPE	COMPANY	PERF ☐ OPEN HOLE ☐
-			-			REMARKS
-			-			No samples.
-			-			
-			-			
-			-			
			-			

INITIAL WATER RECORD			CORING RECORD			
INTERVAL	STAT LEV	TYPE	INTERVAL	LOCATION	NO	rec
-			-			
-			-			
-			-			
-			-			
-			-			

GEOLOGICAL CONTACTS		TOP	ELEV	THICK
	KB / LAKE LEVEL	0		
	DRIFT / LAKE BOTTOM	1.0		
DEVONIAN	PORT LAMBTON			
	KETTLE POINT			
	HAMILTON			
	MARCELLUS			
	DUNDEE	55.8		
	COLUMBUS			
	LUCAS			
	AMHERSTBURG			
	SYLVANIA			
	BOIS BLANC			
	SPRINGVALE			
	ORISKANY			
SILURIAN	BASS ISLANDS			
	G SHALE			
	F SHALE			
	F SALT			
	E CARBONATE			
	D SALT/EQUIVALENT			
	C SHALE			
	B MARKER			
	B EQUIVALENT			
	B SALT			
	B ANHYDRITE			
	A2 CARBONATE			
	A2 SALT			

SILURIAN	A2 ANHYDRITE			
	A1 CARBONATE			
	A1 SALT			
	A1 ANHYDRITE			
	GUELPH			
	ERAMOSA			
	GOAT ISLAND			
	GASPORT/WIARTON			
	DECEW			
	ROCHESTER			
	IRONDEQUOIT			
	REYNALES/FOSSIL HILL			
	THOROLD			
	GRIMSBY			
	CABOT HEAD			
	MANITOULIN			
	WHIRLPOOL			
ORDOVICIAN	QUEENSTON			
	BLUE MOUNTAIN - GEORG BAY			
	COLLINGWOOD			
	COBOURG			
	VERULAM			
	KIRKFIELD			
	COBOCONK			
	GULL RIVER			
	SHADOW LAKE			
CAMBRIAN				
PRECAMBRIAN				

GEOLOGY BY: T. R. Carter

CTY	Middlesex	TWP	Metcalfe	BLK	-	TRAC	4-8	LOT 5	CON XIII
WELL NAME	Brett- Metcalfe, Metcalfe 4-8-5-XIII			PERMIT	7073			INIT CLASS	NPW
OPERATOR	H. Brett and Associates Ltd.			TARGET	DEV			CUR STATUS	DH -ABD

DRILLING DATA				DATES		COORDINATES			SAMPLES	
CONTRACTOR	Bothwell Drilling & Service			PERMIT	86-11-17	NORTH	61.0	m	TOP	56.4 m
RIG TYPE	Rotary	DEPTHS		SPUD	86-11-24	SOUTH	-	m	BOT	129.5 m
CABLE TOP	-	KB ELEV	224.7 m	COMPTD	86-12-17	EAST	-	m	TRAY	3158
BOT	-	LOGGER		OFFCNF	87-12-17	WEST	61.6	m		
ROTRY TOP	1,8 m	DRILLER		WRKOVR	-	LAT	42-52-14			
BOT	129.5 m	DEEP END		ABNDND	86-12-29	LONG	81-40-05			
DRLG FLD	-	PLUG BK								

INITIAL GAS RECORD		
INTERVAL	FLOW	SIP
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CASING AND TUBING RECORD				
DIAM	WEIGHT	SET AT	HOW SET	RECOV
177	29.8	54.3	CEM	-

COMPLETION DATA	
GAS	10³m³/d
OIL	m³/d
SIP	kPa
FORM	
INTRVL	m
	m
	m
PERF ☐	OPEN HOLE ☒
REMARKS	
Sand in Lucas 115.8-117.4	

INITIAL OIL RECORD		
INTERVAL	FLOW	DENSITY
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LOGGING RECORD		
INTERVAL	TYPE	COMPANY
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INITIAL WATER RECORD		
INTERVAL	STAT LEV	TYPE
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CORING RECORD			
INTERVAL	LOCATION	NO	mm
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–			
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	GEOLOGICAL CONTACTS	TOP	ELEV	THICK
	KB / LAKE LEVEL	0		
	DRIFT / LAKE BOTTOM	1.8		
DEVONIAN	PORT LAMBTON			
	KETTLE POINT			
	HAMILTON	38.1		
	MARCELLUS			
	DUNDEE	95.1		
	COLUMBUS			
	LUCAS	111.3		
	AMHERSTBURG			
	SYLVANIA			
	BOIS BLANC			
	SPRINGVALE			
	ORISKANY			
SILURIAN	BASS ISLANDS			
	G SHALE			
	F SHALE			
	F SALT			
	E CARBONATE			
	D SALT/EQUIVALENT			
	C SHALE			
	B MARKER			
	B EQUIVALENT			
	B SALT			
	B ANHYDRITE			
	A2 CARBONATE			
	A2 SALT			

SILURIAN	A2 ANHYDRITE			
	A1 CARBONATE			
	A1 SALT			
	A1 ANHYDRITE			
	GUELPH			
	ERAMOSA			
	GOAT ISLAND			
	GASPORT/WIARTON			
	DECEW			
	ROCHESTER			
	IRONDEQUOIT			
	REYNALES/FOSSIL HILL			
	THOROLD			
	GRIMSBY			
	CABOT HEAD			
	MANITOULIN			
	WHIRLPOOL			
ORDOVICIAN	QUEENSTON			
	BLUE MOUNTAIN - GEORG BAY			
	COLLINGWOOD			
	COBOURG			
	VERULA			
	KIRKFIELD			
	COBOCONK			
	GULL RIVER			
	SHADOW LAKE			
	CAMBRIAN			
	PRECAMBRIAN			

GEOLOGY BY T.R. Carter

CTY	Middlesex	TWP	Metcalfe	BLK	-	TRAC	1-1	LOT 6	CON XIV
WELL NAME	Brett-Metcalfe 1-1-6-XIV			PERMIT	7063			INIT CLASS	NPW
OPERATOR	H. Brett & Associates Ltd.			TARGET	DEV			CUR STATUS	DH-ABD

DRILLING DATA				DATES		COORDINATES			SAMPLES	
CONTRACTOR	Bothwell Drilling & Servicing			PERMIT	86-10-31	NORTH	-	m	TOP	42.7
RIG TYPE	ROT	DEPTHS		SPUD	86-11-04	SOUTH	61.0	m	BOT	135.6
CABLE TOP	-	KB ELEV	226.0	COMPTD	86-11-12	EAST	-	m	TRAY	3111
BOT	-	LOGGER	-	OFFCNF	87-11-12	WEST	61.0	m		
ROTRY TOP	1.8	DRILLER	137.2	WRKOVR	-	LAT	42-51-58			
BOT	137,2	DEEP END	-	ABNDND	-	LONG	81-40-19			
DRLG FLD	-	PLUG BK	-							

INITIAL GAS RECORD		
INTERVAL	FLOW	SIP
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CASING AND TUBING RECORD				
DIAM	WEIGHT	SET AT	HOW SET	RECOV
273.0	-	4.0	SHO	4.0
177.8	29.8	53.6	CEM	-

COMPLETION DATA	
GAS	10³m³/d
OIL	m³/d
SIP	kPa
FORM	
INTRVL	m
	m
	m
PERF ☐	OPEN HOLE ☐
REMARKS	

INITIAL OIL RECORD		
INTERVAL	FLOW	DENSITY
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LOGGING RECORD		
INTERVAL	TYPE	COMPANY
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INITIAL WATER RECORD		
INTERVAL	STAT LEV	TYPE
136.6 - 137.2	54.9	SUL
–		
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–		

CORING RECORD			
INTERVAL	LOCATION	NO	mm
–			
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	GEOLOGICAL CONTACTS	TOP	ELEV	THICK
	KB / LAKE LEVEL	0.0		
	DRIFT / LAKE BOTTOM	1.8		
DEVONIAN	PORT LAMBTON			
	KETTLE POINT			
	HAMILTON	42.1		
	MARCELLUS			
	DUNDEE	95.0		
	COLUMBUS	111.0		
	LUCAS	125.0		
	AMHERSTBURG			
	SYLVANIA			
	BOIS BLANC			
	SPRINGVALE			
	ORISKANY			
SILURIAN	BASS ISLANDS			
	G SHALE			
	F SHALE			
	F SALT			
	E CARBONATE			
	D SALT/EQUIVALENT			
	C SHALE			
	B MARKER			
	B EQUIVALENT			
	B SALT			
	B ANHYDRITE			
	A2 CARBONATE			
	A2 SALT			

SILURIAN	A2 ANHYDRITE			
	A1 CARBONATE			
	A1 SALT			
	A1 ANHYDRITE			
	GUELPH			
	ERAMOSA			
	GOAT ISLAND			
	GASPORT/WIARTON			
	DECEW			
	ROCHESTER			
	IRONDEQUOIT			
	REYNALES/FOSSIL HILL			
	THOROLD			
	GRIMSBY			
	CABOT HEAD			
	MANITOULIN			
	WHIRLPOOL			
ORDOVICIAN	QUEENSTON			
	BLUE MOUNTAIN - GEORG BAY			
	COLLINGWOOD			
	COBOURG			
	VERULAM			
	KIRKFIELD			
	COBOCONK			
	GULL RIVER			
	SHADOW LAKE			
	CAMBRIAN			
	PRECAMBRIAN			

GEOLOGY BY T. R. Carter

CTY	Middlesex	TWP	Moss	BLK	-	TRAC	8	LOT	21	CON	II
WELL NAME	Hewitt Tundra et al. Moss 8-21-II			PERMIT	6960			INIT CLASS	NPW		
OPERATOR	Hewitt Oil (Alberta) Ltd.			TARGET	CAM			CUR STATUS	DH-ABD		

DRILLING DATA				DATES		COORDINATES			SAMPLES	
CONTRACTOR	Shaw Drilling Co.			PERMIT	85-12-23	NORTH	165.5	m	TOP	43.0
RIG TYPE	CAB	DEPTHS		SPUD	85-12-28	SOUTH	-	m	BOT	1158.5
CABLE TOP	1.4	KB ELEV	213.5	COMPTD	86-03-24	EAST	-	m	TRAY	9121- 22
BOT	1158.5	LOGGER	1157.7	OFFCNF	87-03-24	WEST	152.4	m		
ROTRY TOP	-	DRILLER	1158.5	WRKOVR	-	LAT	42-34-56			
BOT	-	DEEP END	-	ABNDND	86-04-01	LONG	81-48-46.5			
DRLG FLD	-	PLUG BK	-							

INITIAL GAS RECORD		
INTERVAL	FLOW	SIP
30 – -	-	-
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CASING AND TUBING RECORD				
DIAM	WEIGHT	SET AT	HOW SET	RECOV
339.7	71.4	44.6	SHO	44.6
273.1	60.3	112.5	SHO	112.5
219.1	35.7	308.7	PAC	281.4
177.8	29.8	570.5	CEM	473.3

COMPLETION DATA	
GAS	10³m³/d
OIL	m³/d
SIP	kPa
FORM	
INTRVL	m
	m
	m
PERF ☐	OPEN HOLE ☐
REMARKS	

INITIAL OIL RECORD		
INTERVAL	FLOW	DENSITY
473 – 476	-	-
476 – 479	-	-
499 – 502	-	-
–		
–		

LOGGING RECORD		
INTERVAL	TYPE	COMPANY
0 – 1153.5	GRL	COMP
0 – 1157.0	NEUT	"
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INITIAL WATER RECORD		
INTERVAL	STAT LEV	TYPE
30 – -	20	FRE
168 – -	40	SUL
507 – 509	419	SAL
–		
–		
–		

CORING RECORD			
INTERVAL	LOCATION	NO	mm
–			
–			
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–			
–			

GEOLOGICAL CONTACTS		TOP	ELEV	THICK
	KB / LAKE LEVEL	0		
	DRIFT / LAKE BOTTOM	1.4		
DEVONIAN	PORT LAMBTON			
	KETTLE POINT			
	HAMILTON	44.5		
	MARCELLUS			
	DUNDEE	112.0		
	COLUMBUS	149.0		
	LUCAS	151.0		
	AMHERSTBURG	189.0		
	SYLVANIA			
	BOIS BLANC	235.0		
	SPRINGVALE	248.5		
	ORISKANY	251.0		
SILURIAN	BASS ISLANDS	256.0		
	G SHALE	293.0		
	F SHALE	299.9		
	F SALT			
	E CARBONATE	343.7		
	D SALT/EQUIVALENT			
	C SHALE	369.8		
	B MARKER	379.2		
	B EQUIVALENT			
	B SALT	389.2		
	B ANHYDRITE	435.5		
	A2 CARBONATE	437.0		
	A2 SALT			
SILURIAN	A2 ANHYDRITE	467.8		
	A1 CARBONATE	470.0		
	A1 SALT			
	A1 ANHYDRITE			
	GUELPH	492.2		
	ERAMOSA			
	GOAT ISLAND	508.5		
	GASPORT/WIARTON	548.0		
	DECEW			
	ROCHESTER	553.0		
	IRONDEQUOIT			
	REYNALES/FOSSIL HILL	567.0		
	THOROLD			
	GRIMSBY			
	CABOT HEAD	568.0		
	MANITOULIN	601.2		
	WHIRLPOOL			
ORDOVICIAN	QUEENSTON	610.4		
	BLUE MOUNTAIN - GEORG BAY	721.3		
	COLLINGWOOD			
	COBOURG	878.0		
	VERULAM	912.5		
	KIRKFIELD	987.6		
	COBOCONK	1021.5		
	GULL RIVER	1054.5		
	SHADOW LAKE	1145.8		
CAMBRIAN		1149.0		
PRECAMBRIAN		1152.0		

GEOLOGY BY T. R. Carter

CTY	Norfolk	TWP	Charlotteville	BLK	-	TRAC	7	LOT	3	CON	IV
WELL NAME	Bayview #14, Charlotteville 7-3-IV			PERMIT	7040			INIT CLASS	NPW		
OPERATOR	Bayview Explorations Ltd.			TARGET	CLI			CUR STATUS	GSOS-ABD		

DRILLING DATA				DATES		COORDINATES			SAMPLES	
CONTRACTOR	Murray Rose Drilling Inc.			PERMIT	86-08-19	NORTH	235.1	m	TOP	76.2
RIG TYPE	CAB	DEPTHS		SPUD	86-08-11	SOUTH	-	m	BOT	419.1
CABLE TOP	1.3	KB ELEV	223.3	COMPTD	86-09-30	EAST	-	m	TRAY	9789
BOT	419.1	LOGGER	-	OFFCNF	87-09-30	WEST	415.3	m		
ROTRY TOP	-	DRILLER	419.1	WRKOVR	-	LAT	42-43-05			
BOT	-	DEEP END	-	ABNDND	86-10-10	LONG	80-26-08.5			
DRLG FLD	-	PLUG BK	-							

INITIAL GAS RECORD		
INTERVAL	FLOW	SIP
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CASING AND TUBING RECORD				
DIAM	WEIGHT	SET AT	HOW SET	RECOV
273.0	62.5	76.2	SHO	76.2
219.1	35.7	82.0	BAR	82.0
114.3	14.1	377.6	BAR	377.6

COMPLETION DATA	
GAS	10³m³/d
OIL	m³/d
SIP	kPa
FORM	
INTRVL	m
	m
	m
PERF ☐	OPEN HOLE ☐
REMARKS	

INITIAL OIL RECORD		
INTERVAL	FLOW	DENSITY
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LOGGING RECORD		
INTERVAL	TYPE	COMPANY
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INITIAL WATER RECORD		
INTERVAL	STAT LEV	TYPE
80.5 – -	21.3	FRE
134.1 – -	12.2	SUL
–		
–		
–		
–		

CORING RECORD			
INTERVAL	LOCATION	NO	mm
–			
–			
–			
–			
–			
–			

GEOLOGICAL CONTACTS		TOP	ELEV	THICK
	KB / LAKE LEVEL	0.0		
	DRIFT / LAKE BOTTOM	1.3		
DEVONIAN	PORT LAMBTON			
	KETTLE POINT			
	HAMILTON			
	MARCELLUS			
	DUNDEE	76.2		
	COLUMBUS			
	LUCAS			
	AMHERSTBURG	116.1		
	SYLVANIA			
	BOIS BLANC	142.0		
	SPRINGVALE	153.8		
	ORISKANY			
SILURIAN	BASS ISLANDS	167.8		
	G SHALE	185.0		
	F SHALE	192.6		
	F SALT			
	E CARBONATE	229.8		
	D SALT/EQUIVALENT			
	C SHALE	249.3		
	B MARKER			
	B EQUIVALENT	267.0		
	B SALT			
	B ANHYDRITE	274.3		
	A2 CARBONATE	278.0		
	A2 SALT			
SILURIAN	A2 ANHYDRITE			
	A1 CARBONATE	290.5		
	A1 SALT			
	A1 ANHYDRITE			
	GUELPH	297.8		
	ERAMOSA			
	GOAT ISLAND	321.9		
	GASPORT/WIARTON			
	DECEW	362.1		
	ROCHESTER	364.2		
	IRONDEQUOIT	380.1		
	REYNALES/FOSSIL HILL	390.1		
	THOROLD	382.5		
	GRIMSBY	384.5		
	CABOT HEAD	401.4		
	MANITOULIN	412.7		
	WHIRLPOOL	414.9		
ORDOVICIAN	QUEENSTON	415.4		
	BLUE MOUNTAIN - GEORG BAY			
	COLLINGWOOD			
	COBOURG			
	VERULAM			
	KIRKFIELD			
	COBOCONK			
	GULL RIVER			
	SHADOW LAKE			
CAMBRIAN				
PRECAMBRIAN				

GEOLOGY BY T. R. Carter

CTY Norfolk	TWP Charlotteville	BLK -	TRAC 8	LOT 3	CON IX
WELL NAME	Bayview #12, Charlotteville 8-3-IX	PERMIT	6982	INIT CLASS	DEV
OPERATOR	Bayview Explorations Ltd.	TARGET	CLI	CUR STATUS	GP

DRILLING DATA				DATES		COORDINATES		SAMPLES	
CONTRACTOR	Murray Rose Drilling Inc.			PERMIT	86-02-17	NORTH	237.5 m	TOP	
RIG TYPE	CAB	DEPTHS		SPUD	86-02-17	SOUTH	- m	BOT	
CABLE TOP	1.0	KB ELEV	229.0	COMPTD	86-03-19	EAST	452.2 m	TRAY	
BOT	367.5	LOGGER	-	OFFCNF	86-04-18	WEST	- m		
ROTRY TOP	-	DRILLER	367.5	WRKOVR	-	LAT	42-46-21		
BOT	-	DEEP END		ABNDND	-	LONG	80-28-34		
DRLG FLD	-	PLUG BK	363.9						

INITIAL GAS RECORD

INTERVAL	FLOW	BP
360.8 – 361.8	-	965
–		
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–		
–		

CASING AND TUBING RECORD

DIAM	WEIGHT	SET AT	HOW SET	RECOV
273	62.5	59.1	SHO	59.1
219	35.9	62.8	CEM	-
114	14.1	360.9	CEM	-
19	-	363.9	HAN	-

COMPLETION DATA

GAS	3.60	10³m³/d
OIL	-	m³/d
BP	2241	kPa
FORM	Thorold	
INTRVL	360.8 - 361.8	m
		m
		m
PERF ☐	OPEN HOLE ☒	

REMARKS

No samples.

INITIAL OIL RECORD

INTERVAL	FLOW	DENSITY
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–		
–		
–		

LOGGING RECORD

INTERVAL	TYPE	COMPANY
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–		
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–		
–		

INITIAL WATER RECORD

INTERVAL	STAT LEV	TYPE
57.0 – -	19.2	SUL
71.6 – -	13.7	SUL
–		
–		
–		
–		

CORING RECORD

INTERVAL	LOCATION	NO	mm
–			
–			
–			
–			
–			

	GEOLOGICAL CONTACTS	TOP	ELEV	THICK
	KB / LAKE LEVEL	0		
	DRIFT / LAKE BOTTOM	1.0		
DEVONIAN	PORT LAMBTON			
	KETTLE POINT			
	HAMILTON			
	MARCELLUS			
	DUNDEE	59.1		
	COLUMBUS			
	LUCAS			
	AMHERSTBURG			
	SYLVANIA			
	BOIS BLANC	105.8		
	SPRINGVALE			
	ORISKANY			
SILURIAN	BASS ISLANDS	146.0		
	G SHALE	161.5		
	F SHALE			
	F SALT			
	E CARBONATE			
	D SALT/EQUIVALENT			
	C SHALE			
	B MARKER			
	B EQUIVALENT			
	B SALT			
	B ANHYDRITE			
	A2 CARBONATE	266.4		
	A2 SALT			
SILURIAN	A2 ANHYDRITE			
	A1 CARBONATE			
	A1 SALT			
	A1 ANHYDRITE			
	GUELPH	272.8		
	ERAMOSA			
	GOAT ISLAND			
	GASPORT/WARTON			
	DECEW			
	ROCHESTER	341.4		
	IRONDEQUOIT	357.8		
	REYNALES/FOSSIL HILL			
	THOROLD	360.3		
	GRIMSBY	363.9		
	CABOT HEAD			
	MANITOULIN			
	WHIRLPOOL			
ORDOVICIAN	QUEENSTON			
	BLUE MOUNTAIN - GEORG BAY			
	COLLINGWOOD			
	COBOURG			
	VERULAM			
	KIRKFIELD			
	COBOCONK			
	GULL RIVER			
	SHADOW LAKE			
	CAMBRIAN			
	PRECAMBRIAN			

GEOLOGY BY T. R. Carter

CTY Norfolk	TWP Charlotteville	BLK -	TRAC 7	LOT 7	CON VI
WELL NAME	Bayview #11 Charlotteville 7-7-VI	PERMIT	6968	INIT CLASS	NPW
OPERATOR	Bayview Explorations Ltd.	TARGET	CLI	CUR STATUS	GP

DRILLING DATA				DATES		COORDINATES		SAMPLES	
CONTRACTOR	Murray Rose Drilling Inc.			PERMIT	86-01-17	NORTH	107.5 m	TOP	76.0
RIG TYPE	CAB	DEPTHS		SPUD	86-01-14	SOUTH	- m	BOT	389.5
CABLE TOP	1.3	KB ELEV	231.4	COMPTD	86-02-06	EAST	107.0 m	TRAY	8009
BOT	389.5	LOGGER	-	OFFCNF	87-02-06	WEST	- m		
ROTRY TOP	-	DRILLER	389.5	WRKOVR	-	LAT	42-44-57		
BOT	-	DEEP END	-	ABNDND	-	LONG	80-25-37		
DRLG FLD	-	PLUG BK	387.7						

INITIAL GAS RECORD

INTERVAL	FLOW	BP
383.7 – -	-	-
385.6 – 386.2	0.99	-
388.0 – 388.3	2.15	3758
–		
–		
–		

CASING AND TUBING RECORD

DIAM	WEIGHT	SET AT	HOW SET	RECOV
273	62.5	76.2	SHO	76.2
219	35.7	82.3	CEM	-
114	14.1	385.6	CEM	-
19	-	387.7	-	-

COMPLETION DATA

GAS	4.96	10³m³/d
OIL	-	m³/d
BP	3758	kPa
FORM	-	
INTRVL	385.6 - 387.7	m
		m
		m
PERF ☐	OPEN HOLE ☒	

REMARKS

INITIAL OIL RECORD

INTERVAL	FLOW	DENSITY
–		
–		
–		
–		
–		

LOGGING RECORD

INTERVAL	TYPE	COMPANY
–		
–		
–		
–		
–		
–		
–		

INITIAL WATER RECORD

INTERVAL	STAT LEV	TYPE
77.4 – -	18.9	SUL
134.1 – -	12.2	SUL
316.4 – -	9.1	BLK
–		
–		
–		

CORING RECORD

INTERVAL	LOCATION	NO	mm
–			
–			
–			
–			
–			

	GEOLOGICAL CONTACTS	TOP	ELEV	THICK
	KB / LAKE LEVEL	0		
	DRIFT / LAKE BOTTOM	1.1		
DEVONIAN	PORT LAMBTON			
	KETTLE POINT			
	HAMILTON			
	MARCELLUS			
	DUNDEE			
	COLUMBUS			
	LUCAS	72.3		
	AMHERSTBURG	109.5		
	SYLVANIA			
	BOIS BLANC	125.0		
	SPRINGVALE			
	ORISKANY			
SILURIAN	BASS ISLANDS	165.5		
	G SHALE			
	F SHALE	185.0		
	F SALT			
	E CARBONATE	228.0		
	D SALT/EQUIVALENT			
	C SHALE	253.5		
	B MARKER			
	B EQUIVALENT	273.4		
	B SALT			
	B ANHYDRITE			
	A2 CARBONATE	277.0		
	A2 SALT			
SILURIAN	A2 ANHYDRITE			
	A1 CARBONATE	281.0		
	A1 SALT			
	A1 ANHYDRITE			
	GUELPH	294.4		
	ERAMOSA			
	GOAT ISLAND			
	GASPORT/WARTON			
	DECEW			
	ROCHESTER	359.9		
	IRONDEQUOIT	379.3		
	REYNALES/FOSSIL HILL	381.0		
	THOROLD	382.2		
	GRIMSBY	384.7		
	CABOT HEAD			
	MANITOULIN			
	WHIRLPOOL			
ORDOVICIAN	QUEENSTON			
	BLUE MOUNTAIN - GEORG BAY			
	COLLINGWOOD			
	COBOURG			
	VERULAM			
	KIRKFIELD			
	COBOCONK			
	GULL RIVER			
	SHADOW LAKE			
	CAMBRIAN			
	PRECAMBRIAN			

GEOLOGY BY T. R. Carter

CTY Norfolk	TWP Charlotteville	BLK -	TRAC 5	LOT 7	CON X
WELL NAME Chatham 23, Charlotteville 5-7-X		PERMIT 6991		INIT CLASS NPW	
OPERATOR W.T. Chatham Associates Ltd.		TARGET CLI		CUR STATUS GP	

DRILLING DATA				DATES		COORDINATES			SAMPLES	
CONTRACTOR	Eagle Drilling Services Inc.			PERMIT	86-02-21	NORTH	-	m	TOP	76.0
RIG TYPE	ROT/CAB	DEPTHS		SPUD	86-03-25	SOUTH	851.9	m	BOT	400.8
CABLE TOP	361.2	KB ELEV	240.9	COMPTD	86-04-11	EAST	452.9	m	TRAY	6558
BOT	400.8	LOGGER	400.8	OFFCNF	87-04-11	WEST	-	m		
ROTRY TOP	1.0	DRILLER	400.8	WRKOVR	-	LAT	42-47-49			
BOT	361.2	DEEP END	-	ABNDND	-	LONG	80-27-43.5			
DRLG FLD	-	PLUG BK	368.9							

INITIAL GAS RECORD			CASING AND TUBING RECORD					COMPLETION DATA		
INTERVAL	FLOW	SIP	DIAM	WEIGHT	SET AT	HOW SET	RECOV	GAS	-	10 ³m³/d
366.1 – 367.3	0.082	2137	193.7	35.7	76.8	CEM	-	OIL	-	m³/d
367.3 – 368.2	0.306	-	114.3	14.1	361.2	BHP	361.2	SIP	-	kPa
–			114.3	14.1	365.8	CEM	-	FORM	Grimsby	
–								INTRVL	365.8 - 367.6	m
–										m
–										m

INITIAL OIL RECORD			LOGGING RECORD			COMPLETION DATA
INTERVAL	FLOW	DENSITY	INTERVAL	TYPE	COMPANY	PERF ☐ OPEN HOLE ☒
–			0 – 400.8	NEUT	COMP	REMARKS
–			0 – 398.4	GRL	"	
–			361.2 – 400.8	DENL	"	
–			–			
–			–			

INITIAL WATER RECORD			CORING RECORD			
INTERVAL	STAT LEV	TYPE	INTERVAL	LOCATION	NO	mm
–			–			
–			–			
–			–			
–			–			
–			–			

	GEOLOGICAL CONTACTS	TOP	ELEV	THICK
	KB / LAKE LEVEL	0		
	DRIFT / LAKE BOTTOM	1.0		
DEVONIAN	PORT LAMBTON			
	KETTLE POINT			
	HAMILTON			
	MARCELLUS			
	DUNDEE	73.2		
	COLUMBUS			
	LUCAS			
	AMHERSTBURG	101.0		
	SYLVANIA			
	BOIS BLANC	139.5		
	SPRINGVALE			
	ORISKANY			
SILURIAN	BASS ISLANDS	145.5		
	G SHALE	165.2		
	F SHALE	170.7		
	F SALT			
	E CARBONATE	209.1		
	D SALT/EQUIVALENT			
	C SHALE	233.8		
	B MARKER	240.8		
	B EQUIVALENT	246.3		
	B SALT			
	B ANHYDRITE	256.0		
	A2 CARBONATE	258.8		
	A2 SALT			

SILURIAN	A2 ANHYDRITE			
	A1 CARBONATE	268.5		
	A1 SALT			
	A1 ANHYDRITE			
	GUELPH	276.8		
	ERAMOSA			
	GOAT ISLAND			
	GASPORT/WHARTON			
	DECEW	340.2		
	ROCHESTER	347.5		
	IRONDEQUOIT	359.1		
	REYNALES/FOSSIL HILL	360.9		
	THOROLD	362.1		
	GRIMSBY	365.0		
	CABOT HEAD	371.6		
	MANITOULIN	392.6		
	WHIRLPOOL	393.5		
ORDOVICIAN	QUEENSTON	395.0		
	BLUE MOUNTAIN - GEORG BAY			
	COLLINGWOOD			
	COBOURG			
	VERULAM			
	KIRKFIELD			
	COBOCONK			
	GULL RIVER			
	SHADOW LAKE			
	CAMBRIAN			
	PRECAMBRIAN			

GEOLOGY BY: T. R. Carter

CTY Norfolk	TWP Middleton	BLK	TRAC 5	LOT 27	CON II STR
WELL NAME Cyclamen, Middleton 5-27-II STR		PERMIT 6994		INIT CLASS DEV	
OPERATOR Fernlea Flowers Ltd.		TARGET CLI		CUR STATUS GP	

DRILLING DATA				DATES		COORDINATES			SAMPLES	
CONTRACTOR	Murray Rose Drilling Inc.			PERMIT	86-02-27	NORTH	785.3	m	TOP	62.5
RIG TYPE	CAB	DEPTHS		SPUD	86-02-27	SOUTH	-	m	BOT	367.0
CABLE TOP	1.0	KB ELEV	235.7	COMPTD	86-03-28	EAST	207.4	m	TRAY	7700
BOT	367.0	LOGGER	-	OFFCNF	86-04-27	WEST	-	m		
ROTRY TOP	-	DRILLER	367.0	WRKOVR	-	LAT	42-49-15			
BOT	-	DEEP END	-	ABNDND	-	LONG	80-35-26			
DRLG FLD	-	PLUG BK	362.0							

INITIAL GAS RECORD			CASING AND TUBING RECORD					COMPLETION DATA		
INTERVAL	FLOW	SIP	DIAM	WEIGHT	SET AT	HOW SET	RECOV	GAS	-	10 ³m³/d
360.3 – -	-	-	273.0	62.5	62.8	SHO	62.8	OIL	-	m³/d
360.6 – 361.2	0.396	3723	219.1	35.7	67.1	CEM	-	SIP	-	kPa
–			114.3	14.1	356.9	CEM	-	FORM	Thorold	
–								INTRVL	360.3 - 361.2	m
–										m
–										m

INITIAL OIL RECORD			LOGGING RECORD			COMPLETION DATA
INTERVAL	FLOW	DENSITY	INTERVAL	TYPE	COMPANY	PERF ☐ OPEN HOLE ☒
–			–			REMARKS
–			–			
–			–			
–			–			
–			–			

INITIAL WATER RECORD			CORING RECORD			
INTERVAL	STAT LEV	TYPE	INTERVAL	LOCATION	NO	mm
65.2 – -	19.8	SUL	–			
277.4 – -	9.8	SUL	–			
–			–			
–			–			
–			–			

	GEOLOGICAL CONTACTS	TOP	ELEV	THICK
	KB / LAKE LEVEL	0		
	DRIFT / LAKE BOTTOM	1.0		
DEVONIAN	PORT LAMBTON			
	KETTLE POINT			
	HAMILTON			
	MARCELLUS			
	DUNDEE			
	COLUMBUS			
	LUCAS	62.5		
	AMHERSTBURG	89.0		
	SYLVANIA			
	BOIS BLANC	130.5		
	SPRINGVALE			
	ORISKANY			
SILURIAN	BASS ISLANDS	139.8		
	G SHALE	151.0		
	F SHALE	157.6		
	F SALT			
	E CARBONATE	195.0		
	D SALT/EQUIVALENT			
	C SHALE	215.2		
	B MARKER	226.2		
	B EQUIVALENT	232.3		
	B SALT			
	B ANHYDRITE	238.4		
	A2 CARBONATE	241.2		
	A2 SALT			

SILURIAN	A2 ANHYDRITE	254.5		
	A1 CARBONATE	256.0		
	A1 SALT			
	A1 ANHYDRITE			
	GUELPH	260.0		
	ERAMOSA			
	GOAT ISLAND	287.7		
	GASPORT/WHARTON	330.7		
	DECEW	336.5		
	ROCHESTER	347.0		
	IRONDEQUOIT	356.6		
	REYNALES/FOSSIL HILL	360.0		
	THOROLD	360.3		
	GRIMSBY	362.3		
	CABOT HEAD			
	MANITOULIN			
	WHIRLPOOL			
ORDOVICIAN	QUEENSTON			
	BLUE MOUNTAIN - GEORG BAY			
	COLLINGWOOD			
	COBOURG			
	VERULAM			
	KIRKFIELD			
	COBOCONK			
	GULL RIVER			
	SHADOW LAKE			
	CAMBRIAN			
	PRECAMBRIAN			

GEOLOGY BY: T. R. Carter

CTY Norfolk TWP Middleton BLK TRAC 7 LOT 29 CON I NTR
WELL NAME Non Stop Begonia, Middleton 7-29-I NTR PERMIT 7008 INIT CLASS DEV
OPERATOR Fernlea Flowers Ltd. TARGET CLI CUR STATUS GP

DRILLING DATA			
CONTRACTOR	Murray Rose Drilling Inc,		
RIG TYPE	CAB	DEPTHS	
CABLE TOP	1.0	KB ELEV	238.1
BOT	358.0	LOGGER	-
ROTRY TOP	-	DRILLER	358.0
BOT	-	DEEP END	-
DRLG FLD	-	PLUG BK	349.9

DATES	
PERMIT	86-03-21
SPUD	86-03-24
COMPTD	86-04-28
OFFCNF	86-05-28
WRKOVR	-
ABNDND	-

COORDINATES		
NORTH	295.9	m
SOUTH	-	m
EAST	190.7	m
WEST	-	m
LAT	42-51-00	
LONG	80-36-05	

SAMPLES	
TOP	48.5
BOT	358.1
TRAY	6499

INITIAL GAS RECORD

INTERVAL	FLOW	SIP
346.3 — -	-	-
346.3 — 347.5	0.142	3518
—		
—		
—		
—		

CASING AND TUBING RECORD

DIAM	WEIGHT	SET AT	HOW SET	RECOV
273	62.5	48.5	SHO	62.5
219.1	35.7	52.7	CEM	-
114.3	14.1	341.1	PAC	-

COMPLETION DATA

GAS	-	10³m³/d
OIL	-	m³/d
SIP	-	kPa
FORM	Reynales	
INTRVL	346.3 - 347.5	m
		m
		m

PERF ☐ OPEN HOLE ☒

REMARKS

INITIAL OIL RECORD

INTERVAL	FLOW	DENSITY
—		
—		
—		
—		
—		

LOGGING RECORD

INTERVAL	TYPE	COMPANY
—		
—		
—		
—		
—		
—		

INITIAL WATER RECORD

INTERVAL	STAT LEV	TYPE
49.4 —	18.0	SUL
59.4 —	12.2	SUL
247.5 —	6.7	SUL
—		
—		
—		

CORING RECORD

INTERVAL	LOCATION	NO	mm
—			
—			
—			
—			
—			

	GEOLOGICAL CONTACTS	TOP	ELEV	THICK
	KB / LAKE LEVEL	0		
	DRIFT / LAKE BOTTOM	1.0		
DEVONIAN	PORT LAMBTON			
	KETTLE POINT			
	HAMILTON			
	MARCELLUS			
	DUNDEE	48.5		
	COLUMBUS			
	LUCAS	53.3		
	AMHERSTBURG	65.0		
	SYLVANIA			
	BOIS BLANC	118.0		
	SPRINGVALE	125.0		
	ORISKANY			
SILURIAN	BASS ISLANDS	127.0		
	G SHALE	138.0		
	F SHALE	142.3		
	F SALT			
	E CARBONATE	178.3		
	D SALT/EQUIVALENT			
	C SHALE	198.4		
	B MARKER	210.0		
	B EQUIVALENT	215.2		
	B SALT			
	B ANHYDRITE	222.0		
	A2 CARBONATE	225.0		
	A2 SALT			
SILURIAN	A2 ANHYDRITE	238.0		
	A1 CARBONATE	239.6		
	A1 SALT			
	A1 ANHYDRITE			
	GUELPH	244.0		
	ERAMOSA			
	GOAT ISLAND	274.0		
	GASPORT/WIARTON	325.2		
	DECEW	329.2		
	ROCHESTER	335.0		
	IRONDEQUOIT	344.7		
	REYNALES/FOSSIL HILL	346.6		
	THOROLD	348.0		
	GRIMSBY	349.9		
	CABOT HEAD			
	MANITOULIN			
	WHIRLPOOL			
ORDOVICIAN	QUEENSTON			
	BLUE MOUNTAIN - GEORG BAY			
	COLLINGWOOD			
	COBOURG			
	VERULAM			
	KIRKFIELD			
	COBOCONK			
	GULL RIVER			
	SHADOW LAKE			
	CAMBRIAN			
	PRECAMBRIAN			

GEOLOGY BY T. R. Carter

CTY Norfolk TWP N. Walsingham BLK - TRAC 6 LOT 19 CON VII
WELL NAME FM 11, North Walsingham 6-19-VII PERMIT 7066 INIT CLASS NPW
OPERATOR Francis Saul TARGET CLI CUR STATUS GS - ABD

DRILLING DATA			
CONTRACTOR	Murray Rose Drilling Inc.		
RIG TYPE	CAB	DEPTHS	
CABLE TOP	1.0	KB ELEV	216.4
BOT	404.5	LOGGER	-
ROTRY TOP	-	DRILLER	404.5
BOT	-	DEEP END	-
DRLG FLD	-	PLUG BK	-

DATES	
PERMIT	86-11-07
SPUD	86-10-07
COMPTD	86-11-13
OFFCNF	87-11-13
WRKOVR	-
ABNDND	87-03-07

COORDINATES		
NORTH	506.4	m
SOUTH	-	m
EAST	212.6	m
WEST	-	m
LAT	42-42-29	
LONG	80-29-47	

SAMPLES	
TOP	81.1
BOT	404.5
TRAY	8535

INITIAL GAS RECORD

INTERVAL	FLOW	SIP
392.0 — 392.6	-	-
392.6 — 393.2	0.034	276
—		
—		
—		
—		

CASING AND TUBING RECORD

DIAM	WEIGHT	SET AT	HOW SET	RECOV
273.0	62.5	81.1	SHO	81.1
219.1	35.7	84.5	BAR	-
114.3	14.1	373.7	BAR	-

COMPLETION DATA

GAS		10³m³/d
OIL		m³/d
SIP		kPa
FORM		
INTRVL		m
		m
		m

PERF ☐ OPEN HOLE ☐

REMARKS

INITIAL OIL RECORD

INTERVAL	FLOW	DENSITY
—		
—		
—		
—		
—		

LOGGING RECORD

INTERVAL	TYPE	COMPANY
—		
—		
—		
—		
—		
—		

INITIAL WATER RECORD

INTERVAL	STAT LEV	TYPE
82.3 — -	19.2	SUL
314.6 — -	12.8	BLACK
—		
—		
—		
—		

CORING RECORD

INTERVAL	LOCATION	NO	mm
—			
—			
—			
—			
—			

	GEOLOGICAL CONTACTS	TOP	ELEV	THICK
	KB / LAKE LEVEL	0.0		
	DRIFT / LAKE BOTTOM	1.0		
DEVONIAN	PORT LAMBTON			
	KETTLE POINT			
	HAMILTON			
	MARCELLUS			
	DUNDEE	81.0		
	COLUMBUS			
	LUCAS			
	AMHERSTBURG	94.5		
	SYLVANIA			
	BOIS BLANC	140.2		
	SPRINGVALE	162.5		
	ORISKANY			
SILURIAN	BASS ISLANDS	170.0		
	G SHALE	186.5		
	F SHALE	191.7		
	F SALT			
	E CARBONATE	226.7		
	D SALT/EQUIVALENT			
	C SHALE	253.6		
	B MARKER	272.0		
	B EQUIVALENT	279.8		
	B SALT			
	B ANHYDRITE	283.0		
	A2 CARBONATE	284.4		
	A2 SALT			
SILURIAN	A2 ANHYDRITE			
	A1 CARBONATE	295.4		
	A1 SALT			
	A1 ANHYDRITE			
	GUELPH	302.4		
	ERAMOSA			
	GOAT ISLAND	329.8		
	GASPORT/WIARTON	360.0		
	DECEW	369.4		
	ROCHESTER	375.6		
	IRONDEQUOIT	388.4		
	REYNALES/FOSSIL HILL	390.4		
	THOROLD	392.0		
	GRIMSBY	393.5		
	CABOT HEAD	401.4		
	MANITOULIN			
	WHIRLPOOL			
ORDOVICIAN	QUEENSTON			
	BLUE MOUNTAIN - GEORG BAY			
	COLLINGWOOD			
	COBOURG			
	VERULAM			
	KIRKFIELD			
	COBOCONK			
	GULL RIVER			
	SHADOW LAKE			
	CAMBRIAN			
	PRECAMBRIAN			

GEOLOGY BY T. R. Carter

CTY	Norfolk	TWP	N. Walsingham	BLK	-	TRAC	6	LOT 19	CON VIII
WELL NAME	F.M. #10, N. Walsingham 6-19-VIII			PERMIT	6985			INIT CLASS	DEV
OPERATOR	F. K. Saul			TARGET	CLI			CUR STATUS	GP

DRILLING DATA				DATES		COORDINATES		SAMPLES	
CONTRACTOR	Murray Rose Drilling Inc.			PERMIT	86-02-20	NORTH	468.2 m	TOP	77.4
RIG TYPE	CAB	DEPTHS		SPUD	86-01-29	SOUTH	- m	BOT	399.3
CABLE TOP	1.3	KB ELEV	218.2	COMPTD	86-02-25	EAST	118.0 m	TRAY	3559
BOT	399.3	LOGGER	-	OFFCNF	86-03-27	WEST	- m		
ROTRY TOP	-	DRILLER	399.3	WRKOVR	-	LAT	42-42-49		
BOT	-	DEEP END	-	ABNDND	-	LONG	80-30-09		
DRLG FLD	-	PLUG BK	393.5						

INITIAL GAS RECORD		
INTERVAL	FLOW	SIP
388.6 – 389.5	-	1379
–		
–		
–		
–		
–		

CASING AND TUBING RECORD				
DIAM	WEIGHT	SET AT	HOW SET	RECOV
273	62.5	77.4	SHO	77.4
219	35.9	81.7	CEM	-
114	14.1	385.0	CEM	-
19	-	393.5	-	-

COMPLETION DATA		
GAS	-	10³m³/d
OIL	-	m³/d
SIP	-	kPa
FORM	Thorold	
INTRVL	388.6 - 389.5	m
		m
		m
PERF ☐	OPEN HOLE ☒	

REMARKS

INITIAL OIL RECORD		
INTERVAL	FLOW	DENSITY
–		
–		
–		
–		
–		

LOGGING RECORD		
INTERVAL	TYPE	COMPANY
–		
–		
–		
–		
–		
–		
–		

INITIAL WATER RECORD		
INTERVAL	STAT LEV	TYPE
78.3 – -	21.0	SUL
146.3 – -	19.8	SUL
306.3 – -	15.8	BLK
–		
–		
–		

CORING RECORD			
INTERVAL	LOCATION	NO	mm
–			
–			
–			
–			
–			
–			

	GEOLOGICAL CONTACTS	TOP	ELEV	THICK
	KB / LAKE LEVEL	0		
	DRIFT / LAKE BOTTOM	1.3		
DEVONIAN	PORT LAMBTON			
	KETTLE POINT			
	HAMILTON			
	MARCELLUS			
	DUNDEE	77.4		
	COLUMBUS			
	LUCAS	94.5		
	AMHERSTBURG	117.8		
	SYLVANIA			
	BOIS BLANC	157.6		
	SPRINGVALE			
	ORISKANY			
SILURIAN	BASS ISLANDS	170.5		
	G SHALE	190.2		
	F SHALE	196.0		
	F SALT			
	E CARBONATE	223.1		
	D SALT/EQUIVALENT			
	C SHALE	253.7		
	B MARKER	268.2		
	B EQUIVALENT			
	B SALT			
	B ANHYDRITE	276.5		
	A2 CARBONATE	282.8		
	A2 SALT			

SILURIAN	A2 ANHYDRITE	292.6		
	A1 CARBONATE	294.0		
	A1 SALT			
	A1 ANHYDRITE			
	GUELPH	298.2		
	ERAMOSA			
	GOAT ISLAND			
	GASPORT/WIARTON			
	DECEW			
	ROCHESTER	367.0		
	IRONDEQUOIT	384.7		
	REYNALES/FOSSIL HILL	387.3		
	THOROLD	388.6		
	GRIMSBY	394.3		
	CABOT HEAD			
	MANITOULIN			
	WHIRLPOOL			
ORDOVICIAN	QUEENSTON			
	BLUE MOUNTAIN - GEORG BAY			
	COLLINGWOOD			
	COBOURG			
	VERULAM			
	KIRKFIELD			
	COBOCONK			
	GULL RIVER			
	SHADOW LAKE			
	CAMBRIAN			
	PRECAMBRIAN			

GEOLOGY BY T. R. Carter

CTY	Norfolk	TWP	S. Walsingham	BLK	-	TRAC	2	LOT 13	CON A
WELL NAME	Chatham 14, S. Walsingham 2-13-A			PERMIT	6913			INIT CLASS	NPW
OPERATOR	W. T. Chatham			TARGET	CLI			CUR STATUS	GP

DRILLING DATA				DATES		COORDINATES		SAMPLES	
CONTRACTOR	Eagle Drilling Services Inc.			PERMIT	85-11-01	NORTH	- m	TOP	99.0
RIG TYPE	CAB/ROT	DEPTHS		SPUD	85-12-12	SOUTH	220.5 m	BOT	448.4
CABLE TOP	397.4	KB ELEV	191.3	COMPTD	86-01-27	EAST	129.4 m	TRAY	3281
BOT	449.9	LOGGER	449.9	OFFCNF	87-01-27	WEST	- m		
ROTRY TOP	1.2	DRILLER	448.7	WRKOVR	-	LAT	42-32-17		
BOT	397.4	DEEP END	-	ABNDND	-	LONG	80-29-53		
DRLG FLD	-	PLUG BK	413.0						

INITIAL GAS RECORD		
INTERVAL	FLOW	SIP
405.1 – 406.9	-	3585
406.9 – 407.8	1.09	-
407.8 – 408.7	1.99	-
–		
–		
–		

CASING AND TUBING RECORD				
DIAM	WEIGHT	SET AT	HOW SET	RECOV
193.7	35.7	100.3	CEM	0
114.3	14.1	396.5	BHP	396.5
114.3	14.1	417.0	CEM	0

COMPLETION DATA		
GAS	-	10³m³/d
OIL	-	m³/d
SIP	-	kPa
FORM	Grimsby	
INTRVL	408.1 - 411.2	m
		m
		m
PERF ☒	OPEN HOLE ☐	

REMARKS

Operator depths have been corrected relative to KB elevation.

INITIAL OIL RECORD		
INTERVAL	FLOW	DENSITY
–		
–		
–		
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LOGGING RECORD		
INTERVAL	TYPE	COMPANY
1.2 – 449.9	NEUT	COMP
1.2 – 447.4	GRL	"
396.7 – 449.9	DENL	"
367.0 – 414.2	CCL	"
–		
–		
–		

INITIAL WATER RECORD		
INTERVAL	STAT LEV	TYPE
–		
–		
–		
–		
–		
–		

CORING RECORD			
INTERVAL	LOCATION	NO	mm
–			
–			
–			
–			
–			
–			

	GEOLOGICAL CONTACTS	TOP	ELEV	THICK
	KB / LAKE LEVEL	0		
	DRIFT / LAKE BOTTOM	1.2		
DEVONIAN	PORT LAMBTON			
	KETTLE POINT			
	HAMILTON			
	MARCELLUS			
	DUNDEE	95.4		
	COLUMBUS			
	LUCAS			
	AMHERSTBURG	136.5		
	SYLVANIA			
	BOIS BLANC	155.0		
	SPRINGVALE	172.5		
	ORISKANY			
SILURIAN	BASS ISLANDS	181.0		
	G SHALE	203.0		
	F SHALE	209.7		
	F SALT			
	E CARBONATE	247.5		
	D SALT/EQUIVALENT			
	C SHALE	270.4		
	B MARKER	281.0		
	B EQUIVALENT			
	B SALT			
	B ANHYDRITE			
	A2 CARBONATE	296.3		
	A2 SALT			

SILURIAN	A2 ANHYDRITE			
	A1 CARBONATE	303.9		
	A1 SALT			
	A1 ANHYDRITE			
	GUELPH	314.6		
	ERAMOSA			
	GOAT ISLAND			
	GASPORT/WIARTON			
	DECEW			
	ROCHESTER	381.6		
	IRONDEQUOIT	402.3		
	REYNALES/FOSSIL HILL	403.6		
	THOROLD	405.1		
	GRIMSBY	407.8		
	CABOT HEAD	414.7		
	MANITOULIN			
	WHIRLPOOL	440.7		
ORDOVICIAN	QUEENSTON	443.8		
	BLUE MOUNTAIN - GEORG BAY			
	COLLINGWOOD			
	COBOURG			
	VERULAM			
	KIRKFIELD			
	COBOCONK			
	GULL RIVER			
	SHADOW LAKE			
	CAMBRIAN			
	PRECAMBRIAN			

GEOLOGY BY T. R. Carter

CTY	Norfolk	TWP	S. Walsingham	BLK	-	TRAC	8	LOT	13	CON	II
WELL NAME	Chatham 16 S. Walsingham 8-13-II			PERMIT	6915			INIT CLASS	NPW		
OPERATOR	W.T. Chatham Associates Ltd.			TARGET	CLI			CUR STATUS	GP		

DRILLING DATA				DATES		COORDINATES			SAMPLES	
CONTRACTOR	Eagle Drilling Services Inc.			PERMIT	85-11-01	NORTH	184.6	m	TOP	101
RIG TYPE	ROT/CAB	DEPTHS		SPUD	85-11-09	SOUTH	-	m	BOT	449
CABLE TOP	411.5	KB ELEV	203.7	COMPTD	86-01-29	EAST	-	m	TRAY	6444
BOT	449.6	LOGGER	450.2	OFFCNF	87-01-29	WEST	180.2	m		
ROTRY TOP	1.2	DRILLER	450.2	WRKOVR	-	LAT	42-38-14			
BOT	411.5	DEEP END	-	ABNDND	-	LONG	80-29-24			
DRLG FLD	-	PLUG BK	420.0							

INITIAL GAS RECORD			CASING AND TUBING RECORD					COMPLETION DATA		
INTERVAL	FLOW	SIP	DIAM	WEIGHT	SET AT	HOW SET	RECOV	GAS	10.6	10³m³/d
410.2 – 411.5	0.445	1034.2	193.7	35.7	104.8	CEM	-	OIL	-	m³/d
415.1 – 416.0	0.099	-	114.3	14.1	407.8	BHP	407.8	SIP	3792	kPa
416.0 – 417.1	0.074	-	114.3	14.1	422.7	CEM	-	FORM	Thorold/Grimsby	
–								INTRVL	409.0 - 417.0	m
–										m
–										m

INITIAL OIL RECORD			LOGGING RECORD			
INTERVAL	FLOW	DENSITY	INTERVAL	TYPE	COMPANY	PERF ☒ OPEN HOLE ☐
–			1.2 – 450.2	NEUT	COMP	REMARKS
–			1.2 – 447.7	GRL	"	Some Springvale sand
–			407.8 – 450.2	DENL	"	in Bois Blanc.
–			344.1 – 420.0	CCL	"	Operator depths
–			407.8 – 449.9	GRDL	"	corrected for KB
			–			elevation.
			–			

INITIAL WATER RECORD			CORING RECORD			
INTERVAL	STAT LEV	TYPE	INTERVAL	LOCATION	NO.	mm
115.5 – -	-	FRE	–			
121.6 – -	-	SUL	–			
–			–			
–			–			
–			–			
–			–			

	GEOLOGICAL CONTACTS	TOP	ELEV	THICK	SILURIAN	A2 ANHYDRITE			
	KB / LAKE LEVEL	0				A1 CARBONATE	313.6		
	DRIFT / LAKE BOTTOM	1.2				A1 SALT			
DEVONIAN	PORT LAMBTON					A1 ANHYDRITE			
	KETTLE POINT					GUELPH	317.9		
	HAMILTON					ERAMOSA			
	MARCELLUS					GOAT ISLAND			
	DUNDEE	102.7				GASPORT/WIARTON			
	COLUMBUS					DECEW	385.2		
	LUCAS					ROCHESTER	391.3		
	AMHERSTBURG	139.0				IRONDEQUOIT	405.4		
	SYLVANIA					REYNALES/FOSSIL HILL	407.2		
	BOIS BLANC	173.0				THOROLD	408.4		
	SPRINGVALE					GRIMSBY	412.2		
	ORISKANY					CABOT HEAD	426.7		
SILURIAN	BASS ISLANDS	188.6				MANITOULIN	443.2		
	G SHALE	209.4				WHIRLPOOL			
	F SHALE	216.0			ORDOVICIAN	QUEENSTON	446.2		
	F SALT					BLUE MOUNTAIN - GEORG BAY			
	E CARBONATE	258.8				COLLINGWOOD			
	D SALT/EQUIVALENT					COBOURG			
	C SHALE	275.5				VERULAM			
	B MARKER	284.7				KIRKFIELD			
	B EQUIVALENT	289.5				COBOCONK			
	B SALT					GULL RIVER			
	B ANHYDRITE	298.0				SHADOW LAKE			
	A2 CARBONATE	302.3				CAMBRIAN			
	A2 SALT					PRECAMBRIAN			

GEOLOGY BY T. R. Carter

CTY	Norfolk	TWP	S. Walsingham	BLK	-	TRAC	I	LOT	14	CON	I
WELL NAME	Chatham 15, S. Walsingham 1-14-I			PERMIT	6914			INIT CLASS	NPW		
OPERATOR	W.T. Chatham			TARGET	CLI			CUR STATUS	GP		

DRILLING DATA				DATES		COORDINATES			SAMPLES	
CONTRACTOR	Eagle Drilling Services Inc.			PERMIT	85-11-01	NORTH	-	m	TOP	79.0
RIG TYPE	CAB/ROT	DEPTHS		SPUD	85-11-25	SOUTH	194.9	m	BOT	430.1
CABLE TOP	391.0	KB ELEV	180.0	COMPTD	86-01-19	EAST	-	m	TRAY	6809
BOT	431.3	LOGGER	431.9	OFFCNF	87-01-19	WEST	135.5	m		
ROTRY TOP	1.2	DRILLER	431.3	WRKOVR	-	LAT	42-38-14			
BOT	391.0	DEEP END	-	ABNDND	-	LONG	80-28-47			
DRLG FLD	-	PLUG BK	397.8							

INITIAL GAS RECORD			CASING AND TUBING RECORD					COMPLETION DATA		
INTERVAL	FLOW	SIP	DIAM	WEIGHT	SET AT	HOW SET	RECOV	GAS	7.4	10³m³/d
388.3 – 390.1	-	552	193.7	35.7	86.2	CEM	0	OIL	-	m³/d
390.1 – 391.0	0.005	-	114.3	14.1	382.8	BHP	382.8	SIP	4033	kPa
393.5 – 395.0	0.001	-	114.3	14.1	399.9	CEM	0	FORM	Thorold/Grimsby	
–								INTRVL	387.4 - 393.8	m
–										m
–										m

INITIAL OIL RECORD			LOGGING RECORD			
INTERVAL	FLOW	DENSITY	INTERVAL	TYPE	COMPANY	PERF ☒ OPEN HOLE ☐
–			1.2 – 431.9	NEUT	COMP	REMARKS
–			1.2 – 429.4	GRL	"	Operator depths
–			382.8 – 431.9	DENL	"	corrected to rotary
–			333.4 – 397.8	CCL	"	KB.
–			–			
			–			
			–			

INITIAL WATER RECORD			CORING RECORD			
INTERVAL	STAT LEV	TYPE	INTERVAL	LOCATION	NO.	mm
–			–			
–			–			
–			–			
–			–			
–			–			
–			–			

	GEOLOGICAL CONTACTS	TOP	ELEV	THICK	SILURIAN	A2 ANHYDRITE			
	KB / LAKE LEVEL	0				A1 CARBONATE	290.1		
	DRIFT / LAKE BOTTOM	1.2				A1 SALT			
DEVONIAN	PORT LAMBTON					A1 ANHYDRITE			
	KETTLE POINT					GUELPH	295.6		
	HAMILTON					ERAMOSA			
	MARCELLUS					GOAT ISLAND			
	DUNDEE	79.5				GASPORT/WIARTON			
	COLUMBUS					DECEW	362.7		
	LUCAS					ROCHESTER	370.0		
	AMHERSTBURG	115.0				IRONDEQUOIT	384.3		
	SYLVANIA					REYNALES/FOSSIL HILL	385.8		
	BOIS BLANC	131.0				THOROLD	387.7		
	SPRINGVALE	149.0				GRIMSBY	389.5		
	ORISKANY					CABOT HEAD	397.0		
SILURIAN	BASS ISLANDS	161.5				MANITOULIN	421.8		
	G SHALE	187.1				WHIRLPOOL	423.9		
	F SHALE	190.8			ORDOVICIAN	QUEENSTON	424.9		
	F SALT					BLUE MOUNTAIN - GEORG BAY			
	E CARBONATE	231.9				COLLINGWOOD			
	D SALT/EQUIVALENT					COBOURG			
	C SHALE	255.1				VERULAM			
	B MARKER	263.3				KIRKFIELD			
	B EQUIVALENT	268.2				COBOCONK			
	B SALT					GULL RIVER			
	B ANHYDRITE	276.1				SHADOW LAKE			
	A2 CARBONATE	281.0				CAMBRIAN			
	A2 SALT					PRECAMBRIAN			

GEOLOGY BY T. R. Carter

CTY	Norfolk	TWP	S. Walsingham	BLK	-	TRAC	1	LOT	18	CON	III
WELL NAME	Chatham 21, S. Walsingham 1-18-III					PERMIT	6987	INIT CLASS	NPW		
OPERATOR	W.T. Chatham Associates Ltd.					TARGET	CLI	CUR STATUS	GP		

DRILLING DATA				DATES		COORDINATES		SAMPLES	
CONTRACTOR	Eagle Drilling Services Inc.			PERMIT	86-02-21	NORTH	- m	TOP	96.0
RIG TYPE	ROT	DEPTHS		SPUD	86-02-25	SOUTH	144.4 m	BOT	408.4
CABLE TOP	-	KB ELEV	210.0	COMPTD	86-03-09	EAST	- m	TRAY	7070
BOT	-	LOGGER	408.6	OFFCNF	87-03-09	WEST	132.9 m		
ROTRY TOP	1.1	DRILLER	408.6	WRKOVR	-	LAT	42-40-11.5		
BOT	408.6	DEEP END	-	ABNDND	-	LONG	80-28-16		
DRLG FLD	BRINE	PLUG BK	405.9						

INITIAL GAS RECORD

INTERVAL	FLOW	SIP
399.1 – 405.1	12.03	3309
–		
–		
–		
–		
–		

CASING AND TUBING RECORD

DIAM	WEIGHT	SET AT	HOW SET	RECOV
193.7	35.7	97.4	CEM	-
114.3	14.1	406.5	CEM	-

COMPLETION DATA

GAS - 10³m³/d
OIL - m³/d
SIP - kPa
FORM Thorold/Grimsby
INTRVL 399.2 - 405.0 m
m
m
PERF ☒ OPEN HOLE ☐

INITIAL OIL RECORD

INTERVAL	FLOW	DENSITY
–		
–		
–		
–		
–		

LOGGING RECORD

INTERVAL	TYPE	COMPANY
1.1 – 408.6	NEUT	COMP
1.1 – 406.5	GRL	"
378.1 – 408.6	DENL	"
330.3 – 405.9	CCL	"
–		
–		

REMARKS

Operator depths corrected relative to KB.

INITIAL WATER RECORD

INTERVAL	STAT LEV	TYPE
–		
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–		

CORING RECORD

INTERVAL	LOCATION	NO	mm
–			
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–			
–			
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–			

	GEOLOGICAL CONTACTS	TOP	ELEV	THICK		A2 ANHYDRITE			
	KB / LAKE LEVEL	0				A1 CARBONATE	304.7		
	DRIFT / LAKE BOTTOM	1.1				A1 SALT			
DEVONIAN	PORT LAMBTON					A1 ANHYDRITE			
	KETTLE POINT					GUELPH	309.3		
	HAMILTON					ERAMOSA			
	MARCELLUS					GOAT ISLAND	324.2		
	DUNDEE	92.5			SILURIAN	GASPORT/WIARTON	371.1		
	COLUMBUS					DECEW	376.1		
	LUCAS					ROCHESTER	382.7		
	AMHERSTBURG	127.0				IRONDEQUOIT	396.1		
	SYLVANIA					REYNALES/FOSSIL HILL	398.6		
	BOIS BLANC	149.0				THOROLD	399.3		
	SPRINGVALE	167.5				GRIMSBY	400.8		
	ORISKANY					CABOT HEAD			
SILURIAN	BASS ISLANDS	179.5				MANITOULIN			
	G SHALE	198.0				WHIRLPOOL			
	F SHALE	202.7			ORDOVICIAN	QUEENSTON			
	F SALT					BLUE MOUNTAIN - GEORG BAY			
	E CARBONATE	240.7				COLLINGWOOD			
	D SALT/EQUIVALENT					COBOURG			
	C SHALE	263.5				VERULAM			
	B MARKER	275.4				KIRKFIELD			
	B EQUIVALENT	280.3				COBOCONK			
	B SALT					GULL RIVER			
	B ANHYDRITE	288.5				SHADOW LAKE			
	A2 CARBONATE	293.7				CAMBRIAN			
	A2 SALT					PRECAMBRIAN			

GEOLOGY BY T. R. Carter

CTY	Norfolk	TWP	Woodhouse	BLK	-	TRAC	8	LOT	11	CON	III
WELL NAME	Chatham 26, Woodhouse 8-11-III					PERMIT	7007	INIT CLASS	NPW		
OPERATOR	W. T. Chatham Associates Ltd.					TARGET	CLI	CUR STATUS	GP		

DRILLING DATA				DATES		COORDINATES		SAMPLES	
CONTRACTOR	Eagle Drilling Services Inc.			PERMIT	86-03-20	NORTH	194.8 m	TOP	21.0
RIG TYPE	ROT/CAB	DEPTHS		SPUD	86-07-21	SOUTH	- m	BOT	335.3
CABLE TOP	292.6	KB ELEV	200.9	COMPTD	86-08-28	EAST	- m	TRAY	6386
BOT	334.7	LOGGER	334.7	OFFCNF	87-08-28	WEST	171.1 m		
ROTRY TOP	1.0	DRILLER	335.3	WRKOVR	-	LAT	42-48-45		
BOT	292.6	DEEP END	-	ABNDND	-	LONG	80-12-47.5		
DRLG FLD	-	PLUG BK	297.8						

INITIAL GAS RECORD

INTERVAL	FLOW	SIP
295.0 – 296.0	0.147	2965
296.0 – 296.6	0.295	-
–		
–		
–		
–		

CASING AND TUBING RECORD

DIAM	WEIGHT	SET AT	HOW SET	RECOV
177.8	-	20.1	CEM	-
114.3	-	292.9	BHP	292.9
114.3	-	294.1	CEM	-

COMPLETION DATA

GAS 10³m³/d
OIL - m³/d
SIP - kPa
FORM Thorold
INTRVL 295.0 - 296.6 m
m
m
PERF ☐ OPEN HOLE ☒

INITIAL OIL RECORD

INTERVAL	FLOW	DENSITY
–		
–		
–		
–		
–		

LOGGING RECORD

INTERVAL	TYPE	COMPANY
0 – 334.7	NEUT	COMP
0 – 333.5	GRL	"
292.9 – 334.7	DENL	"
–		
–		
–		

REMARKS

INITIAL WATER RECORD

INTERVAL	STAT LEV	TYPE
–		
–		
–		
–		
–		
–		

CORING RECORD

INTERVAL	LOCATION	NO	mm
–			
–			
–			
–			
–			
–			

	GEOLOGICAL CONTACTS	TOP	ELEV	THICK		A2 ANHYDRITE			
	KB / LAKE LEVEL	0				A1 CARBONATE	178.6		
	DRIFT / LAKE BOTTOM	1.0				A1 SALT			
DEVONIAN	PORT LAMBTON					A1 ANHYDRITE			
	KETTLE POINT					GUELPH	184.7		
	HAMILTON					ERAMOSA			
	MARCELLUS					GOAT ISLAND			
	DUNDEE				SILURIAN	GASPORT/WIARTON			
	COLUMBUS					DECEW	272.5		
	LUCAS					ROCHESTER	277.4		
	AMHERSTBURG	15.2				IRONDEQUOIT	291.1		
	SYLVANIA					REYNALES/FOSSIL HILL	292.6		
	BOIS BLANC	48.0				THOROLD	294.4		
	SPRINGVALE	54.0				GRIMSBY	296.9		
	ORISKANY					CABOT HEAD	312.0		
SILURIAN	BASS ISLANDS	64.0				MANITOULIN	328.3		
	G SHALE	80.5				WHIRLPOOL	330.1		
	F SHALE	87.2			ORDOVICIAN	QUEENSTON	331.0		
	F SALT					BLUE MOUNTAIN - GEORG BAY			
	E CARBONATE	125.3				COLLINGWOOD			
	D SALT/EQUIVALENT					COBOURG			
	C SHALE	146.9				VERULAM			
	B MARKER	153.6				KIRKFIELD			
	B EQUIVALENT	159.4				COBOCONK			
	B SALT					GULL RIVER			
	B ANHYDRITE	167.0				SHADOW LAKE			
	A2 CARBONATE	170.1				CAMBRIAN			
	A2 SALT					PRECAMBRIAN			

GEOLOGY BY T. R. Carter

CTY	Norfolk	TWP	Woodhouse	BLK		TRAC	7	LOT II	CON II
WELL NAME	J.R.B. No. 1, Woodhouse 7-II-II			PERMIT	7000			INIT CLASS	NFW
OPERATOR	Ray Hunter			TARGET	CLI			CUR STATUS	GP

DRILLING DATA			
CONTRACTOR	E. Mitchell		
RIG TYPE	Cable	DEPTHS	
CABLE TOP	0	KB ELEV	196.9
BOT	332.5	LOGGER	
ROTRY TOP		DRILLER	332.5
BOT		DEEP END	
DRLG FLD		PLUG BK	

DATES	
PERMIT	86-03-10
SPUD	86-03-05
COMPTD	86-03-25
OFFCNF	87-03-25
WRKOVR	
ABNDND	

COORDINATES		
NORTH		m
SOUTH	1,252.6	m
EAST	124.2	m
WEST		m
LAT	42-47-56.5	
LONG	80-12-41.5	

SAMPLES	
TOP	
BOT	
TRAY	

INITIAL GAS RECORD

INTERVAL	FLOW	SIP
303.0 – 306.0	0.03	344.8
–		
–		
–		
–		
–		

CASING AND TUBING RECORD

DIAM	WEIGHT	SET AT	HOW SET	RECOV
219.1	25.3	27.1	CEM	0
114.3	14.1	294.1	CEM	0

COMPLETION DATA

GAS		$10^3 m^3/d$
OIL		m^3/d
SIP		kPa
FORM	Thorold/Grimsby	
INTRVL	303.0 - 306.0	m
		m
		m
PERF ☐	OPEN HOLE ☒	

REMARKS

No samples. Formation tops cannot be confirmed

INITIAL OIL RECORD

INTERVAL	FLOW	DENSITY
–		
–		
–		
–		
–		

LOGGING RECORD

INTERVAL	TYPE	COMPANY
–		
–		
–		
–		
–		
–		
–		

INITIAL WATER RECORD

INTERVAL	STAT LEV	TYPE
22.6 – -	-	FR
29.0 – -	-	SUL
211.8 – -	-	SUL
–		
–		
–		

CORING RECORD

INTERVAL	LOCATION	NO.	mm
–			
–			
–			
–			
–			

	GEOLOGICAL CONTACTS	TOP	ELEV	THICK
	KB / LAKE LEVEL			
	DRIFT / LAKE BOTTOM	0		
DEVONIAN	PORT LAMBTON			
	KETTLE POINT			
	HAMILTON			
	MARCELLUS			
	DUNDEE			
	COLUMBUS			
	LUCAS			
	AMHERSTBURG	19.8		
	SYLVANIA			
	BOIS BLANC	53.3		
	SPRINGVALE			
	ORISKANY			
SILURIAN	BASS ISLANDS	68.6		
	G SHALE			
	F SHALE			
	F SALT			
	E CARBONATE			
	D SALT/EQUIVALENT			
	C SHALE			
	B MARKER			
	B EQUIVALENT			
	B SALT			
	B ANHYDRITE			
	A2 CARBONATE			
	A2 SALT			

SILURIAN	A2 ANHYDRITE			
	A1 CARBONATE			
	A1 SALT			
	A1 ANHYDRITE			
	GUELPH	187.5		
	ERAMOSA			
	GOAT ISLAND			
	GASPORT/WHARTON			
	DECEW			
	ROCHESTER	278.9		
	IRONDEQUOIT	292.3		
	REYNALES/FOSSIL HILL			
	THOROLD			
	GRIMSBY	303.9		
	CABOT HEAD	306.0		
	MANITOULIN			
	WHIRLPOOL	329.2		
	QUEENSTON	329.8		
ORDOVICIAN	BLUE MOUNTAIN - GEORG BAY			
	COLLINGWOOD			
	COBOURG			
	VERULAM			
	KIRKFIELD			
	COBOCONK			
	GULL RIVER			
	SHADOW LAKE			
	CAMBRIAN			
	PRECAMBRIAN			

GEOLOGY BY T. R. Carter

CTY	Norfolk	TWP	Woodhouse	BLK	-	TRAC	4	LOT 13	CON II
WELL NAME	Chatham 25, Woodhouse 4-13-II			PERMIT	7005			INIT CLASS	NFW
OPERATOR	W.T. Chatham Associates Ltd.			TARGET	CLI			CUR STATUS	GP

DRILLING DATA			
CONTRACTOR	Elgin Mitchell & Sons		
RIG TYPE	ROT/CAB	DEPTHS	
CABLE TOP	289.0	KB ELEV	195.4
BOT	332.8	LOGGER	332.8
ROTRY TOP	1.0	DRILLER	332.8
BOT	289.0	DEEP END	-
DRLG FLD	-	PLUG BK	295.4

DATES	
PERMIT	86-03-19
SPUD	86-03-25
COMPTD	86-04-14
OFFCNF	87-04-14
WRKOVR	-
ABNDND	-

COORDINATES		
NORTH	-	m
SOUTH	577.5	m
EAST	454.3	m
WEST	-	m
LAT	42-48-31	
LONG	80-11-43	

SAMPLES	
TOP	12.0
BOT	332.8
TRAY	5804

INITIAL GAS RECORD

INTERVAL	FLOW	SIP
293.5 – 294.4	0.187	1034
294.4 – 295.1	0.300	-
–		
–		
–		
–		

CASING AND TUBING RECORD

DIAM	WEIGHT	SET AT	HOW SET	RECOV
219.0	41.7	19.2	CEM	-
114.3	14.1	292.0	CEM	-

COMPLETION DATA

GAS	-	$10^3 m^3/d$
OIL	-	m^3/d
SIP	-	kPa
FORM	Thorold	
INTRVL	292.6 - 294.7	m
		m
		m
PERF ☐	OPEN HOLE ☒	

REMARKS

Poor samples in upper portion.

INITIAL OIL RECORD

INTERVAL	FLOW	DENSITY
–		
–		
–		
–		
–		

LOGGING RECORD

INTERVAL	TYPE	COMPANY
0 – 332.2	NEUT	COMP
0 – 332.2	GRL	"
290.2 – 332.2	DENL	"
–		
–		
–		
–		

INITIAL WATER RECORD

INTERVAL	STAT LEV	TYPE
257.0 – -	-	SUL
–		
–		
–		
–		
–		

CORING RECORD

INTERVAL	LOCATION	NO.	mm
–			
–			
–			
–			
–			

	GEOLOGICAL CONTACTS	TOP	ELEV	THICK
	KB / LAKE LEVEL	0		
	DRIFT / LAKE BOTTOM	1.0		
DEVONIAN	PORT LAMBTON			
	KETTLE POINT			
	HAMILTON			
	MARCELLUS			
	DUNDEE	14.0		
	COLUMBUS			
	LUCAS			
	AMHERSTBURG	36.0		
	SYLVANIA			
	BOIS BLANC			
	SPRINGVALE			
	ORISKANY			
SILURIAN	BASS ISLANDS	58.0		
	G SHALE	79.6		
	F SHALE	86.3		
	F SALT			
	E CARBONATE	124.1		
	D SALT/EQUIVALENT			
	C SHALE	146.0		
	B MARKER	152.4		
	B EQUIVALENT	157.3		
	B SALT			
	B ANHYDRITE	165.2		
	A2 CARBONATE	167.9		
	A2 SALT			

SILURIAN	A2 ANHYDRITE			
	A1 CARBONATE	175.6		
	A1 SALT			
	A1 ANHYDRITE			
	GUELPH	182.3		
	ERAMOSA			
	GOAT ISLAND			
	GASPORT/WHARTON			
	DECEW	269.1		
	ROCHESTER	275.5		
	IRONDEQUOIT	288.6		
	REYNALES/FOSSIL HILL	291.4		
	THOROLD	294.4		
	GRIMSBY	294.9		
	CABOT HEAD	308.2		
	MANITOULIN	324.3		
	WHIRLPOOL	327.4		
	QUEENSTON	329.2		
ORDOVICIAN	BLUE MOUNTAIN - GEORG BAY			
	COLLINGWOOD			
	COBOURG			
	VERULAM			
	KIRKFIELD			
	COBOCONK			
	GULL RIVER			
	SHADOW LAKE			
	CAMBRIAN			
	PRECAMBRIAN			

GEOLOGY BY T. R. Carter

CTY	Norfolk	TWP	Woodhouse	BLK	-	TRAC	5	LOT	16	CON	VI
WELL NAME	Falcon Point 1, Woodhouse 5-16-VI			PERMIT	6945			INT CLASS	NFW		
OPERATOR	W.T. Chatham Associates Ltd.			TARGET	CLI			CUR STATUS	GP		

DRILLING DATA				DATES		COORDINATES			SAMPLES	
CONTRACTOR	Eagle Drilling Services Inc.			PERMIT	85-12-03	NORTH	465.8	m	TOP	26.0
RIG TYPE	ROT	DEPTHS		SPUD	86-03-04	SOUTH	-	m	BOT	307.8
CABLE TOP	-	KB ELEV	210.1	COMPTD	86-03-08	EAST	-	m	TRAY	7338
BOT	-	LOGGER	307.2	OFFCNF	87-03-08	WEST	161.9	m		
ROTRY TOP	1.2	DRILLER	307.5	WRKOVR	-	LAT	42-51-22			
BOT	307.5	DEEP END	-	ABNDND	-	LONG	80-11-25			
DRLG FLD	WATER	PLUG BK	306.0							

INITIAL GAS RECORD		
INTERVAL	FLOW	SIP
–		
–		
–		
–		
–		
–		

CASING AND TUBING RECORD				
DIAM	WEIGHT	SET AT	HOW SET	RECOV
193.7	35.7	24.7	CEM	-
114.3	14.1	307.5	CEM	-

COMPLETION DATA		
GAS	-	$10^3m^3/d$
OIL	-	m^3/d
SIP	-	kPa
FORM	Thorold/Grimsby	
INTRVL	268.5 - 276.4	m
FORM:	Whirlpool	m
INTRVL:	302.3 - 304.2	m
PERF ☒	OPEN HOLE ☐	

INITIAL OIL RECORD		
INTERVAL	FLOW	DENSITY
–		
–		
–		
–		
–		
–		

LOGGING RECORD		
INTERVAL	TYPE	COMPANY
0 – 307,5	NEUT	COMP
0 – 305,1	GRL	"
242.6 – 306,6	DENL	"
0 – 304,8	CBND	"
245.0 – 306,2	CCL	"
–		

REMARKS

Operator depths corrected relative to K.B.

INITIAL WATER RECORD		
INTERVAL	STAT LEV	TYPE
–		
–		
–		
–		
–		
–		

CORING RECORD			
INTERVAL	LOCATION	NO	mm
–			
–			
–			
–			
–			

	GEOLOGICAL CONTACTS	TOP	ELEV	THICK		A2 ANHYDRITE			
	KB / LAKE LEVEL	0				A1 CARBONATE	149.9		
	DRIFT / LAKE BOTTOM	1.2				A1 SALT			
DEVONIAN	PORT LAMBTON					A1 ANHYDRITE			
	KETTLE POINT					GUELPH	155.7		
	HAMILTON					ERAMOSA			
	MARCELLUS					GOAT ISLAND			
	DUNDEE				SILURIAN	GASPORT/WIARTON			
	COLUMBUS					DECEW	233.5		
	LUCAS					ROCHESTER	250.5		
	AMHERSTBURG	18.0				IRONDEQUOIT	264.2		
	SYLVANIA					REYNALES/FOSSIL HILL	267.0		
	BOIS BLANC	35.0				THOROLD	268.5		
	SPRINGVALE					GRIMSBY	271.3		
	ORISKANY					CABOT HEAD	285.0		
SILURIAN	BASS ISLANDS	44.0				MANITOULIN	299.3		
	G SHALE	55.5				WHIRLPOOL	302.9		
	F SHALE	60.3				QUEENSTON	303.9		
	F SALT				ORDOVICIAN	BLUE MOUNTAIN - GEORG BAY			
	E CARBONATE	99.3				COLLINGWOOD			
	D SALT/EQUIVALENT					COBOURG			
	C SHALE	120.7				VERULAM			
	B MARKER	126.2				KIRKFIELD			
	B EQUIVALENT	131.0				COBOCONK			
	B SALT					GULL RIVER			
	B ANHYDRITE	139.0				SHADOW LAKE			
	A2 CARBONATE	142.0				CAMBRIAN			
	A2 SALT					PRECAMBRIAN			

GEOLOGY BY T. R. Carter

CTY	Norfolk	TWP	Woodhouse	BLK	-	TRAC	3	LOT	5	CON	II
WELL NAME	Chatham 20, Woodhouse 3-5-II			PERMIT	6988			INT CLASS	NPW		
OPERATOR	W.T. Chatham Associates Ltd.			TARGET	CLI			CUR STATUS	GP		

DRILLING DATA				DATES		COORDINATES			SAMPLES	
CONTRACTOR	Eagle Drilling Services Inc.			PERMIT	86-02-21	NORTH	-	m	TOP	47,0
RIG TYPE	ROT	DEPTHS		SPUD	86-03-11	SOUTH	451,6	m	BOT	367,3
CABLE TOP	-	KB ELEV	215.5	COMPTD	86-03-18	EAST	132,5	m	TRAY	7065
BOT	-	LOGGER	364,6	OFFCNF	87-03-18	WEST	-	m		
ROTRY TOP	1,3	DRILLER	364,2	WRKOVR	-	LAT	42-47-54			
BOT	364.2	DEEP END	-	ABNDND	-	LONG	80-15-29			
DRLG FLD	-	PLUG BK	332,9							

INITIAL GAS RECORD		
INTERVAL	FLOW	SIP
–		
–		
–		
–		
–		
–		

CASING AND TUBING RECORD				
DIAM	WEIGHT	SET AT	HOW SET	RECOV
193,7	35,7	48,9	CEM	-
114,3	14,1	343,0	CEM	-

COMPLETION DATA		
GAS	5,2	$10^3m^3/d$
OIL	-	m^3/d
SIP	1138	kPa
FORM	Thorold	
INTRVL	319,5 - 325,6	m
		m
		m
PERF ☒	OPEN HOLE ☐	

INITIAL OIL RECORD		
INTERVAL	FLOW	DENSITY
–		
–		
–		
–		
–		
–		

LOGGING RECORD		
INTERVAL	TYPE	COMPANY
0 – 364,6	NEUT	COMP
0 – 362,8	GRL	"
289,6 – 364,6	DENL	"
283,5 – 332,9	CCL	"
–		
–		

REMARKS

Operator depths corrected relative to KB elevation.

INITIAL WATER RECORD		
INTERVAL	STAT LEV	TYPE
–		
–		
–		
–		
–		
–		

CORING RECORD			
INTERVAL	LOCATION	NO	mm
–			
–			
–			
–			
–			

	GEOLOGICAL CONTACTS	TOP	ELEV	THICK		A2 ANHYDRITE			
	KB / LAKE LEVEL	0				A1 CARBONATE	209.2		
	DRIFT / LAKE BOTTOM	1.3				A1 SALT			
DEVONIAN	PORT LAMBTON					A1 ANHYDRITE			
	KETTLE POINT					GUELPH	214.7		
	HAMILTON					ERAMOSA			
	MARCELLUS					GOAT ISLAND	252.8		
	DUNDEE	43.1			SILURIAN	GASPORT/WIARTON	283.2		
	COLUMBUS					DECEW	295.7		
	LUCAS					ROCHESTER	303.0		
	AMHERSTBURG	56.0				IRONDEQUOIT	315.2		
	SYLVANIA					REYNALES/FOSSIL HILL	317.1		
	BOIS BLANC	72.0				THOROLD	319.2		
	SPRINGVALE					GRIMSBY	324.6		
	ORISKANY					CABOT HEAD	330.7		
SILURIAN	BASS ISLANDS	96.0				MANITOULIN	351.5		
	G SHALE	111.6				WHIRLPOOL	353.3		
	F SHALE	117.1				QUEENSTON	354.9		
	F SALT				ORDOVICIAN	BLUE MOUNTAIN - GEORG BAY			
	E CARBONATE	155.5				COLLINGWOOD			
	D SALT/EQUIVALENT					COBOURG			
	C SHALE	178.1				VERULAM			
	B MARKER	184.2				KIRKFIELD			
	B EQUIVALENT	190.1				COBOCONK			
	B SALT					GULL RIVER			
	B ANHYDRITE	196.7				SHADOW LAKE			
	A2 CARBONATE	199.7				CAMBRIAN			
	A2 SALT					PRECAMBRIAN			

GEOLOGY BY T. R. Carter

CTY	Norfolk	TWP	Woodhouse	BLK	-	TRAC	1	LOT	5	CON	II
WELL NAME	Chatham 19, Woodhouse 1-5-II			PERMIT	6989	INIT CLASS	NFW		
OPERATOR	W.T. Chatham Associates Ltd.			TARGET	CLI	CUR STATUS	GP		

DRILLING DATA				DATES		COORDINATES			SAMPLES	
CONTRACTOR	Eagle Drilling Services Inc.			PERMIT	86-02-21	NORTH	-	m	TOP	37.0
RIG TYPE	ROT	DEPTHS		SPUD	86-03-19	SOUTH	158.7	m	BOT	347.5
CABLE TOP	-	KB ELEV	203.9	COMPTD	86-03-24	EAST	-	m	TRAY	6855
BOT	-	LOGGER	349.6	OFFCNF	87-03-24	WEST	182.7	m		
ROTRY TOP	1.2	DRILLER	349.6	WRKOVR	-	LAT	42-48-05			
BOT	349.6	DEEP END	-	ABNDND	-	LONG	80-15-20.5			
DRLG FLD	-	PLUG BK	319.4							

INITIAL GAS RECORD			CASING AND TUBING RECORD					COMPLETION DATA		
INTERVAL	FLOW	SIP	DIAM	WEIGHT	SET AT	HOW SET	RECOV	GAS	11.0	$10^3 m^3/d$
–			193.7	35.7	37.5	CEM	-	OIL	-	m^3/d
–			114.3	14.1	330.7	CEM	-	SIP	1069	kPa
–								FORM	Thorold/Grimsby	
–								INTRVL	306.8 - 311.8	m
–										m
–										m

INITIAL OIL RECORD			LOGGING RECORD		
INTERVAL	FLOW	DENSITY	INTERVAL	TYPE	COMPANY
–			0 – 349.6	NEUT	COMP
–			0 – 347.5	GRL	"
–			296.9 – 347.5	DEN	"
–			267.9 – 319.4	CCL	"
–			–		
			–		
			–		

PERF ☒ OPEN HOLE ☐

REMARKS

Operator depths corrected relative to KB elevation.

INITIAL WATER RECORD			CORING RECORD			
INTERVAL	STAT LEV	TYPE	INTERVAL	LOCATION	NO	mm
–			–			
–			–			
–			–			
–			–			
–			–			

GEOLOGICAL CONTACTS		TOP	ELEV	THICK			TOP	ELEV	THICK
	KB / LAKE LEVEL	0			SILURIAN	A2 ANHYDRITE			
	DRIFT / LAKE BOTTOM	1.2				A1 CARBONATE	194.7		
DEVONIAN	PORT LAMBTON					A1 SALT			
	KETTLE POINT					A1 ANHYDRITE			
	HAMILTON					GUELPH	204.2		
	MARCELLUS					ERAMOSA			
	DUNDEE	36.7				GOAT ISLAND			
	COLUMBUS					GASPORT/WIARTON			
	LUCAS					DECEW	282.8		
	AMHERSTBURG	43.0				ROCHESTER	291.7		
	SYLVANIA					IRONDEQUOIT	302.3		
	BOIS BLANC	58.0				REYNALES/FOSSIL HILL	303.9		
	SPRINGVALE	71.5				THOROLD	305.7		
	ORISKANY					GRIMSBY	306.9		
SILURIAN	BASS ISLANDS	79.0				CABOT HEAD	315.1		
	G SHALE	97.2				MANITOULIN	336.8		
	F SHALE	103.3				WHIRLPOOL	340.0		
	F SALT				ORDOVICIAN	QUEENSTON	341.4		
	E CARBONATE	141.6				BLUE MOUNTAIN - GEORG BAY			
	D SALT/EQUIVALENT					COLLINGWOOD			
	C SHALE	163.7				COBOURG			
	B MARKER	169.8				VERULAM			
	B EQUIVALENT	174.9				KIRKFIELD			
	B SALT					COBOCONK			
	B ANHYDRITE	181.9				GULL RIVER			
	A2 CARBONATE	185.9				SHADOW LAKE			
	A2 SALT					CAMBRIAN			
						PRECAMBRIAN			

GEOLOGY BY T. R. Carter

CTY	Norfolk	TWP	Woodhouse	BLK	-	TRAC	5	LOT	5	CON	III
WELL NAME	Chatham 17, Woodhouse 5-5-III			PERMIT	6936	INIT CLASS	DEV		
OPERATOR	W.T. Chatham			TARGET	CLI	CUR STATUS	GP		

DRILLING DATA				DATES		COORDINATES			SAMPLES	
CONTRACTOR	Elgin Mitchell & Sons			PERMIT	85-11-19	NORTH	495.9	m	TOP	18.0
RIG TYPE	CAB/ROT	DEPTHS		SPUD	85-12-04	SOUTH	-	m	BOT	333.2
CABLE TOP	291.8	KB ELEV	198.2	COMPTD	86-01-22	EAST	-	m	TRAY	7095
BOT	335.5	LOGGER	333.1	OFFCNF	86-02-21	WEST	194.8	m		
ROTRY TOP	1.0	DRILLER	333.5	WRKOVR	-	LAT	42-48-27			
BOT	291.8	DEEP END	-	ABNDND	-	LONG	80-15-30			
DRLG FLD	-	PLUG BK	302.5							

INITIAL GAS RECORD			CASING AND TUBING RECORD					COMPLETION DATA		
INTERVAL	FLOW	SIP	DIAM	WEIGHT	SET AT	HOW SET	RECOV	GAS	7.6	$10^3 m^3/d$
297.0 – 297.9	0.094	1103	273	-	20.8	CEM	-	OIL	-	m^3/d
297.9 – 298.8	1.121	-	219.1	41.7	25.4	CEM	-	SIP	1069	kPa
298.8 – 299.4	0.385	-	114.3	14.1	297.6	BHP	-	FORM	Grimsby	
–								INTRVL	298.2 - 302.1	m
–										m
–										m

INITIAL OIL RECORD			LOGGING RECORD		
INTERVAL	FLOW	DENSITY	INTERVAL	TYPE	COMPANY
–			0.6 – 333.1	NEUT	COMP
–			0.6 – 330.4	GRL	"
–			292.6 – 333.1	GRDL	"
–			292.6 – 333.1	DENL	"
–			–		
			–		
			–		

PERF ☐ OPEN HOLE ☒

REMARKS

Operator depths corrected to KB elevation. Some disagreement between logs and samples.

INITIAL WATER RECORD			CORING RECORD			
INTERVAL	STAT LEV	TYPE	INTERVAL	LOCATION	NO	mm
21.0 – -	-	FRE	–			
46.7 – -	-	SUL	–			
–			–			
–			–			
–			–			
–						

GEOLOGICAL CONTACTS		TOP	ELEV	THICK			TOP	ELEV	THICK
	KB / LAKE LEVEL	0			SILURIAN	A2 ANHYDRITE			
	DRIFT / LAKE BOTTOM	1.0				A1 CARBONATE	181.0		
DEVONIAN	PORT LAMBTON					A1 SALT			
	KETTLE POINT					A1 ANHYDRITE			
	HAMILTON					GUELPH	188.3		
	MARCELLUS					ERAMOSA			
	DUNDEE	20.5				GOAT ISLAND			
	COLUMBUS					GASPORT/WIARTON	226.0		
	LUCAS					DECEW	271.2		
	AMHERSTBURG	31.0				ROCHESTER	277.3		
	SYLVANIA					IRONDEQUOIT	290.8		
	BOIS BLANC	52.0				REYNALES/FOSSIL HILL	292.6		
	SPRINGVALE	64.0				THOROLD	293.8		
	ORISKANY					GRIMSBY	295.8		
SILURIAN	BASS ISLANDS	70.0				CABOT HEAD	301.8		
	G SHALE	83.3				MANITOULIN	325.9		
	F SHALE	86.3				WHIRLPOOL	327.1		
	F SALT				ORDOVICIAN	QUEENSTON	328.3		
	E CARBONATE	127.2				BLUE MOUNTAIN - GEORG BAY			
	D SALT/EQUIVALENT					COLLINGWOOD			
	C SHALE	149.6				COBOURG			
	B MARKER	156.6				VERULAM			
	B EQUIVALENT	162.4				KIRKFIELD			
	B SALT					COBOCONK			
	B ANHYDRITE	169.4				GULL RIVER			
	A2 CARBONATE	171.9				SHADOW LAKE			
	A2 SALT					CAMBRIAN			
						PRECAMBRIAN			

GEOLOGY BY T. R. Carter

CTY	Norfolk	TWP	Woodhouse	BLK	-	TRAC	1	LOT 6	CON III
WELL NAME	Chatham 18 Woodhouse 1-6-III			PERMIT	6937			INIT CLASS	NPW
OPERATOR	W.T. Chatham Associates Ltd.			TARGET	CLI			CUR STATUS	GP

DRILLING DATA				DATES		COORDINATES			SAMPLES	
CONTRACTOR	Elgin Mitchell & Sons			PERMIT	85-11-19	NORTH	-	m	TOP	34.0
RIG TYPE	ROT/CAB	DEPTHS		SPUD	85-12-30	SOUTH	181.2	m	BOT	348.4
CABLE TOP	306.0	KB ELEV	216.6	COMPTD	86-03-12	EAST	-	m	TRAY	6972
BOT	348.1	LOGGER	344.1	OFFCNF	87-03-12	WEST	185.0	m		
ROTRY TOP	0.6	DRILLER	348.1	WRKOVR	-	LAT	42-48-55			
BOT	306.0	DEEP END	-	ABNDND	-	LONG	80-15-12			
DRLG FLD	-	PLUG BK	317.0							

INITIAL GAS RECORD

INTERVAL	FLOW	SIP
311.2 – 312.1	0.039	552
312.1 – 312.7	0.031	-
312.7 – 313.3	0.230	-
315.8 – 316.4	0.024	-

CASING AND TUBING RECORD

DIAM	WEIGHT	SET AT	HOW SET	RECOV
219.1	41.7	38.1	CEM	-
114.3	14.1	310.3	BHP	-

COMPLETION DATA

GAS	15.5	10³m³/d
OIL	-	m³/d
SIP	1241	kPa
FORM	Thorold	
INTRVL	311.2 - 316.7	m
PERF ☐	OPEN HOLE ☒	

REMARKS

INITIAL OIL RECORD

INTERVAL	FLOW	DENSITY
–		

LOGGING RECORD

INTERVAL	TYPE	COMPANY
0 – 344.1	NEUT	COM
0 – 341.7	GRL	"
306.9 – 348.1	DENL	"

INITIAL WATER RECORD

INTERVAL	STAT LEV	TYPE
43.3 – -	-	FRE

CORING RECORD

INTERVAL	LOCATION	NO	mm
–			

GEOLOGICAL CONTACTS		TOP	ELEV	THICK
	KB / LAKE LEVEL	0		
	DRIFT / LAKE BOTTOM	0.6		
DEVONIAN	PORT LAMBTON			
	KETTLE POINT			
	HAMILTON			
	MARCELLUS			
	DUNDEE	35.1		
	COLUMBUS			
	LUCAS			
	AMHERSTBURG	37.0		
	SYLVANIA			
	BOIS BLANC	61.0		
	SPRINGVALE	66.5		
	ORISKANY	70.0		
SILURIAN	BASS ISLANDS	73.0		
	G SHALE	87.2		
	F SHALE	91.7		
	F SALT			
	E CARBONATE	130.8		
	D SALT/EQUIVALENT			
	C SHALE	153.0		
	B MARKER	160.9		
	B EQUIVALENT	166.4		
	B SALT			
	B ANHYDRITE	175.0		
	A2 CARBONATE	176.8		
	A2 SALT			
SILURIAN	A2 ANHYDRITE			
	A1 CARBONATE	185.3		
	A1 SALT			
	A1 ANHYDRITE			
	GUELPH	192.0		
	ERAMOSA			
	GOAT ISLAND			
	GASPORT/WIARTON			
	DECEW	280.4		
	ROCHESTER	291.4		
	IRONDEQUOIT	304.8		
	REYNALES/FOSSIL HILL	306.6		
	THOROLD	308.5		
	GRIMSBY	316.4		
	CABOT HEAD	326.4		
	MANITOULIN	339.5		
	WHIRLPOOL	340.8		
ORDOVICIAN	QUEENSTON	343.2		
	BLUE MOUNTAIN - GEORG BAY			
	COLLINGWOOD			
	COBOURG			
	VERULAM			
	KIRKFIELD			
	COBOCONK			
	GULL RIVER			
	SHADOW LAKE			
CAMBRIAN				
PRECAMBRIAN				

GEOLOGY BY T. R. Carter

CTY	Oxford	TWP	Blandford	BLK	-	TRAC	1	LOT 2	CON V
WELL NAME	Domego #2, Blandford 1-2-V			PERMIT	6947			INIT CLASS	NPW
OPERATOR	Domego Resources Ltd.			TARGET	CAM			CUR STATUS	GP

DRILLING DATA				DATES		COORDINATES			SAMPLES	
CONTRACTOR	Rawlings Drilling Co. Ltd.			PERMIT	85-12-05	NORTH	-	m	TOP	134.0
RIG TYPE	CAB	DEPTHS		SPUD	85-12-06	SOUTH	157.8	m	BOT	881.2
CABLE TOP	1.0	KB ELEV	293.7	COMPTD	86-02-11	EAST	-	m	TRAY	6832- 53
BOT	881.2	LOGGER	883.5	OFFCNF	87-02-11	WEST	143.3	m		
ROTRY TOP	-	DRILLER	881.2	WRKOVR	-	LAT	43-12-30			
BOT	-	DEEP END	-	ABNDND	-	LONG	80-38-37			
DRLG FLD	-	PLUG BK	-							

INITIAL GAS RECORD

INTERVAL	FLOW	SIP
870 – 873	-	-

CASING AND TUBING RECORD

DIAM	WEIGHT	SET AT	HOW SET	RECOV
219	10.8	82.6	SHO	0
178	9.0	274.6	PAC	0
114	4.3	-	CEM	0

COMPLETION DATA

GAS	-	10³m³/d
OIL	-	m³/d
SIP	-	kPa
FORM	Cambrian	
INTRVL	870 - 873	m
PERF ☐	OPEN HOLE ☐	

REMARKS

INITIAL OIL RECORD

INTERVAL	FLOW	DENSITY
870 – 873	-	-

LOGGING RECORD

INTERVAL	TYPE	COMPANY
785.0 – 873.3	GRL	SCH
785.0 – 876.0	CNL	"
785.0 – 882.5	LDT	"
785.0 – 882.5	PEF	"
830.0 – 876.0	LATL	"
830.0 – 879.0	MSFL	"

INITIAL WATER RECORD

INTERVAL	STAT LEV	TYPE
32.0 –	-	FRE
42.7 – -	-	FRE

CORING RECORD

INTERVAL	LOCATION	NO	mm
–			

GEOLOGICAL CONTACTS		TOP	ELEV	THICK
	KB / LAKE LEVEL	0		
	DRIFT / LAKE BOTTOM	1.0		
DEVONIAN	PORT LAMBTON			
	KETTLE POINT			
	HAMILTON			
	MARCELLUS			
	DUNDEE			
	COLUMBUS			
	LUCAS			
	AMHERSTBURG			
	SYLVANIA			
	BOIS BLANC			
	SPRINGVALE			
	ORISKANY			
SILURIAN	BASS ISLANDS			
	G SHALE			
	F SHALE			
	F SALT			
	E CARBONATE	41.0		
	D SALT/EQUIVALENT			
	C SHALE	64.0		
	B MARKER	91.0		
	B EQUIVALENT	95.0		
	B SALT			
	B ANHYDRITE			
	A2 CARBONATE	104.0		
	A2 SALT			
SILURIAN	A2 ANHYDRITE	121.0		
	A1 CARBONATE	122.0		
	A1 SALT			
	A1 ANHYDRITE			
	GUELPH	130.0		
	ERAMOSA			
	GOAT ISLAND			
	GASPORT/WIARTON			
	DECEW			
	ROCHESTER	239.8		
	IRONDEQUOIT			
	REYNALES/FOSSIL HILL	247.5		
	THOROLD			
	GRIMSBY			
	CABOT HEAD	261.0		
	MANITOULIN	274.0		
	WHIRLPOOL			
ORDOVICIAN	QUEENSTON	283.0		
	BLUE MOUNTAIN - GEORG BAY	417.0		
	COLLINGWOOD			
	COBOURG	628.0		
	VERULAM			
	KIRKFIELD			
	COBOCONK	800.0		
	GULL RIVER	815.5		
	SHADOW LAKE	867.4		
CAMBRIAN		868.0		
PRECAMBRIAN		873.0		

GEOLOGY BY T. R. Carter

CTY	Oxford	TWP	Blandford	BLK	-	TRAC	1	LOT	4	CON	V
WELL NAME	Domego #1, Blandford 1-4-V			PERMIT	6946			INIT CLASS	NPW		
OPERATOR	Domego Resources Ltd.			TARGET	CAM			CUR STATUS	DH-ABD		

DRILLING DATA				DATES		COORDINATES			SAMPLES	
CONTRACTOR	Rawlings Drilling Co. Ltd.			PERMIT	85-12-03	NORTH	-	m	TOP	51
RIG TYPE	CAB	DEPTHS		SPUD	85-12-15	SOUTH	304.5	m	BOT	882
CABLE TOP	1.5	KB ELEV	293.2	COMPTD	86-03-14	EAST	324.6	m	TRAY	9149- 50
BOT	881.8	LOGGER	-	OFFCNF	87-03-14	WEST	-	m		
ROTRY TOP	-	DRILLER	881.8	WRKOVR	-	LAT	43-12-17			
BOT	-	DEEP END	-	ABNDND	86-03-24	LONG	80-39-34			
DRLG FLD	-	PLUG BK	-							

INITIAL GAS RECORD

INTERVAL	FLOW	SIP
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CASING AND TUBING RECORD

DIAM	WEIGHT	SET AT	HOW SET	RECOV
273	18.0	51,0	SHO	-
219	9,0	84,0	SHO	84.0
178	9,0	277,0	PAC	277.0

COMPLETION DATA

GAS		10³m³/d
OIL		m³/d
SIP		kPa
FORM		
INTRVL		m
		m
		m
PERF ☐	OPEN HOLE ☐	

INITIAL OIL RECORD

INTERVAL	FLOW	DENSITY
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LOGGING RECORD

INTERVAL	TYPE	COMPANY
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REMARKS

INITIAL WATER RECORD

INTERVAL	STAT LEV	TYPE
44 – -	-	-
137 – -	-	-
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CORING RECORD

INTERVAL	LOCATION	NO	mm
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GEOLOGICAL CONTACTS		TOP	ELEV	THICK
	KB / LAKE LEVEL	0		
	DRIFT / LAKE BOTTOM	1.5		
DEVONIAN	PORT LAMBTON			
	KETTLE POINT			
	HAMILTON			
	MARCELLUS			
	DUNDEE			
	COLUMBUS			
	LUCAS			
	AMHERSTBURG			
	SYLVANIA			
	BOIS BLANC			
	SPRINGVALE			
	ORISKANY			
SILURIAN	BASS ISLANDS			
	G SHALE			
	F SHALE	51.0		
	F SALT			
	E CARBONATE	60.0		
	D SALT/EQUIVALENT			
	C SHALE	71.5		
	B MARKER	91.0		
	B EQUIVALENT			
	B SALT			
	B ANHYDRITE	100.0		
	A2 CARBONATE	106.0		
	A2 SALT			

SILURIAN	A2 ANHYDRITE	114,0		
	A1 CARBONATE	115,0		
	A1 SALT			
	A1 ANHYDRITE			
	GUELPH	126,0		
	ERAMOSA			
	GOAT ISLAND			
	GASPORT/WHARTON			
	DECEW			
	ROCHESTER	243.5		
	IRONDEQUOIT			
	REYNALES/FOSSIL HILL	256.0		
	THOROLD			
	GRIMSBY			
	CABOT HEAD	263.0		
	MANITOULIN	280.0		
	WHIRLPOOL			
ORDOVICIAN	QUEENSTON	288.0		
	BLUE MOUNTAIN - GEORG BAY	419.5		
	COLLINGWOOD	616,0		
	COBOURG	650,0		
	VERULAM			
	KIRKFIELD			
	COBOCONK			
	GULL RIVER			
	SHADOW LAKE	871,5		
CAMBRIAN		873,5		
PRECAMBRIAN		877,5		

GEOLOGY BY T. R. Carter

CTY	Oxford	TWP	Blandford	BLK	-	TRAC	3	LOT	7	CON	VIII
WELL NAME	Innerkip No. 4, Blandford 7-VIII			PERMIT	6969			INIT CLASS	NPW		
OPERATOR	Nith River Petroleums Ltd.			TARGET	CAM			CUR STATUS	GP		

DRILLING DATA				DATES		COORDINATES			SAMPLES	
CONTRACTOR	Lorne Newport			PERMIT	86-01-28	NORTH	-	m	TOP	11.0
RIG TYPE	CAB	DEPTHS		SPUD	86-03-24	SOUTH	484.0	m	BOT	876.3
CABLE TOP	1,0	KB ELEV	309	COMPTD	86-11-05	EAST	-	m	TRAY	9160- 61
BOT	877,8	LOGGER	-	OFFCNF	87-11-05	WEST	321.9	m		
ROTRY TOP	-	DRILLER	877,8	WRKOVR	-	LAT	43-14-09			
BOT	-	DEEP END	-	ABNDND	-	LONG	80-41-42			
DRLG FLD	-	PLUG BK	-							

INITIAL GAS RECORD

INTERVAL	FLOW	SIP
876.3 – 878.1	5.67	2965
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CASING AND TUBING RECORD

DIAM	WEIGHT	SET AT	HOW SET	RECOV
254	41.7	11.0	SHO	-
219	-	59.3	SHO	-
178	-	266.1	CEM	-
114	-	874.8	CEM	-

COMPLETION DATA

GAS	-	10³m³/d
OIL	-	m³/d
SIP	2965	kPa
FORM	Cambrian	
INTRVL	876.3 - 878.1	m
		m
		m
PERF ☐	OPEN HOLE ☐	

INITIAL OIL RECORD

INTERVAL	FLOW	DENSITY
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LOGGING RECORD

INTERVAL	TYPE	COMPANY
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REMARKS

INITIAL WATER RECORD

INTERVAL	STAT LEV	TYPE
10.7 – 11.6	2.4	FRE
27.4 – 29.0	0.6	FRE
34.7 – 35.7	Flowing	FRE
47.2 – 47.9	Flowing	FRE
270 – -	-	BLK
270.7 – -	-	SUL

CORING RECORD

INTERVAL	LOCATION	NO	mm
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GEOLOGICAL CONTACTS		TOP	ELEV	THICK
	KB / LAKE LEVEL	0.0		
	DRIFT / LAKE BOTTOM	1.0		
DEVONIAN	PORT LAMBTON			
	KETTLE POINT			
	HAMILTON			
	MARCELLUS			
	DUNDEE			
	COLUMBUS			
	LUCAS			
	AMHERSTBURG			
	SYLVANIA			
	BOIS BLANC	11.0		
	SPRINGVALE			
	ORISKANY			
SILURIAN	BASS ISLANDS	16.8		
	G SHALE			
	F SHALE	37.5		
	F SALT			
	E CARBONATE	76.2		
	D SALT/EQUIVALENT	98.5		
	C SHALE	99.5		
	B MARKER	112.8		
	B EQUIVALENT			
	B SALT			
	B ANHYDRITE	118.9		
	A2 CARBONATE	125.0		
	A2 SALT			

SILURIAN	A2 ANHYDRITE	139.5		
	A1 CARBONATE			
	A1 SALT			
	A1 ANHYDRITE			
	GUELPH	140.2		
	ERAMOSA			
	GOAT ISLAND	222.5		
	GASPORT/WHARTON	237.7		
	DECEW			
	ROCHESTER	250.5		
	IRONDEQUOIT			
	REYNALES/FOSSIL HILL	262.1		
	THOROLD			
	GRIMSBY			
	CABOT HEAD	272.8		
	MANITOULIN	287.0		
	WHIRLPOOL			
ORDOVICIAN	QUEENSTON	295.7		
	BLUE MOUNTAIN - GEORG BAY	426.7		
	COLLINGWOOD			
	COBOURG	647.2		
	VERULAM			
	KIRKFIELD			
	COBOCONK	806.5		
	GULL RIVER			
	SHADOW LAKE	873.0		
CAMBRIAN		874.7		
PRECAMBRIAN				

GEOLOGY BY T. R. Carter

CTY	Welland	TWP	Wainfleet	BLK	–	TRAC	1	LOT	50	CON	VII
WELL NAME	Chippendale Wainfleet 1-50-VII			PERMIT	7012			INIT CLASS	NFW		
OPERATOR	Marshall Souter			TARGET	CLI			CUR STATUS	GP		

DRILLING DATA			
CONTRACTOR	Blake Montgomery		
RIG TYPE	CAB	DEPTHS	
CABLE TOP	0.3	KB ELEV	176.1
BOT	185.9	LOGGER	-
ROTRY TOP	-	DRILLER	185.9
BOT	-	DEEP END	-
DRLG FLD	-	PLUG BK	-

DATES		COORDINATES			SAMPLES	
PERMIT	86-04-01	NORTH	926.6	m	TOP	22.9
SPUD	86-05-21	SOUTH	-	m	BOT	185.9
COMPTD	86-06-30	EAST	-	m	TRAY	4219
OFFCNF	87-06-30	WEST	111.6	m		
WRKOVR	-	LAT	42-59-13.5			
ABNDND	-	LONG	79-31-58			

INITIAL GAS RECORD

INTERVAL	FLOW	SIP
60.0 – -	-	-
127.7 – 128.0	0.071	1310
135.3 – 141.7	-	1655
147.5 – 148.1	0.283	1586
165.2 – 167.9	0.849	1517
–		

CASING AND TUBING RECORD

DIAM	WEIGHT	SET AT	HOW SET	RECOV
203.2	35.7	25.6	-	-
127.0	22.3	119.2	BHP	-

COMPLETION DATA

GAS	1.132	$10^3 m^3/d$
OIL	-	m^3/d
SIP	1517	kPa
FORM	-	
INTRVL	127.7 - 148.1	m
FORM:	Whirlpool	m
INTRVL:	165.2 - 167.9	m
PERF ☐	OPEN HOLE ☐	

REMARKS

No picks made in 'Guelph-Lockport' interval.

INITIAL OIL RECORD

INTERVAL	FLOW	DENSITY
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LOGGING RECORD

INTERVAL	TYPE	COMPANY
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INITIAL WATER RECORD

INTERVAL	STAT LEV	TYPE
25.0 – -	2.1	FRE
39.6 – -	2.1	SUL
57.0 – -	2.1	BLACK
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CORING RECORD

INTERVAL	LOCATION	NO	mm
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	GEOLOGICAL CONTACTS	TOP	ELEV	THICK	SILURIAN	A2 ANHYDRITE			
	KB / LAKE LEVEL	0.0				A1 CARBONATE			
	DRIFT / LAKE BOTTOM	0.3				A1 SALT			
DEVONIAN	PORT LAMBTON					A1 ANHYDRITE			
	KETTLE POINT					GUELPH	67.3		
	HAMILTON					ERAMOSA			
	MARCELLUS					GOAT ISLAND			
	DUNDEE					GASPORT/WIARTON			
	COLUMBUS					DECEW	113.5		
	LUCAS					ROCHESTER	117.4		
	AMHERSTBURG					IRONDEQUOIT	128.8		
	SYLVANIA					REYNALES/FOSSIL HILL	132.0		
	BOIS BLANC					THOROLD	135.7		
	SPRINGVALE					GRIMSBY	137.2		
	ORISKANY					CABOT HEAD	149.9		
SILURIAN	BASS ISLANDS					MANITOULIN			
	G SHALE					WHIRLPOOL	163.0		
	F SHALE				ORDOVICIAN	QUEENSTON	167.5		
	F SALT					BLUE MOUNTAIN - GEORG BAY			
	E CARBONATE					COLLINGWOOD			
	D SALT/EQUIVALENT					COBOURG			
	C SHALE					VERULAM			
	B MARKER					KIRKFIELD			
	B EQUIVALENT					COBOCONK			
	B SALT					GULL RIVER			
	B ANHYDRITE					SHADOW LAKE			
	A2 CARBONATE	25.6				CAMBRIAN			
	A2 SALT					PRECAMBRIAN			

GEOLOGY BY T. R. Carter

CTY	Wentworth	TWP	Binbrook	BLK		TRAC	7	LOT	26	CON	VIII
WELL NAME	Resolute, Binbrook 6-7-26-VIII			PERMIT	6906			INIT CLASS	DEV		
OPERATOR	William and Sheila May			TARGET	CLI			CUR STATUS	GP		

DRILLING DATA			
CONTRACTOR	Blake Montgomery		
RIG TYPE	CAB	DEPTHS	
CABLE TOP	0.3	KB ELEV	201.1
BOT	146.0	LOGGER	-
ROTRY TOP	-	DRILLER	146.0
BOT	-	DEEP END	-
DRLG FLD	-	PLUG BK	-

DATES		COORDINATES			SAMPLES	
PERMIT	85-10-21	NORTH	387.6	m	TOP	7.6
SPUD	86-07-14	SOUTH	-	m	BOT	146.0
COMPTD	86-08-19	EAST	156.7	m	TRAY	6385
OFFCNF	86-09-18	WEST	-	m		
WRKOVR	-	LAT	43-04-53			
ABNDND	-	LONG	79-47-46			

INITIAL GAS RECORD

INTERVAL	FLOW	SIP
96.9 – 101.5	-	-
101.5 – 102.1	-	-
103.3 – 104.9	-	-
127.1 – 130.5	0.566	552
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CASING AND TUBING RECORD

DIAM	WEIGHT	SET AT	HOW SET	RECOV
203.2	35.7	11.6	-	
127.0	22.3	86.0	BHP	

COMPLETION DATA

GAS	0.566	$10^3 m^3/d$
OIL	-	m^3/d
SIP	552	kPa
FORM	Thorold/Grimsby	
INTRVL	96.9 - 104.9	m
FORM:	Whirlpool	m
INTRVL:	127.1 - 130.5	
PERF ☐	OPEN HOLE ☐	

REMARKS

INITIAL OIL RECORD

INTERVAL	FLOW	DENSITY
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LOGGING RECORD

INTERVAL	TYPE	COMPANY
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INITIAL WATER RECORD

INTERVAL	STAT LEV	TYPE
10.7 – -	4.3	BRA
39.0 – -	4.3	SUL
59.7 – -	3.7	BLACK
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CORING RECORD

INTERVAL	LOCATION	NO	mm
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	GEOLOGICAL CONTACTS	TOP	ELEV	THICK	SILURIAN	A2 ANHYDRITE	7.9		
	KB / LAKE LEVEL	0.0				A1 CARBONATE			
	DRIFT / LAKE BOTTOM	0.3				A1 SALT			
DEVONIAN	PORT LAMBTON					A1 ANHYDRITE			
	KETTLE POINT					GUELPH	11.6		
	HAMILTON					ERAMOSA			
	MARCELLUS					GOAT ISLAND			
	DUNDEE					GASPORT/WIARTON			
	COLUMBUS					DECEW			
	LUCAS					ROCHESTER	80.8		
	AMHERSTBURG					IRONDEQUOIT	93.0		
	SYLVANIA					REYNALES/FOSSIL HILL	94.5		
	BOIS BLANC					THOROLD	96.0		
	SPRINGVALE					GRIMSBY	98.5		
	ORISKANY					CABOT HEAD	110.0		
SILURIAN	BASS ISLANDS					MANITOULIN			
	G SHALE					WHIRLPOOL	126.5		
	F SHALE				ORDOVICIAN	QUEENSTON	130.0		
	F SALT					BLUE MOUNTAIN - GEORG BAY			
	E CARBONATE					COLLINGWOOD			
	D SALT/EQUIVALENT					COBOURG			
	C SHALE					VERULAM			
	B MARKER					KIRKFIELD			
	B EQUIVALENT					COBOCONK			
	B SALT					GULL RIVER			
	B ANHYDRITE					SHADOW LAKE			
	A2 CARBONATE					CAMBRIAN			
	A2 SALT					PRECAMBRIAN			

GEOLOGY BY T. R. Carter

CTY	Wentworth	TWP	Binbrook	BLK	-	TRAC	3	LOT 3	CON IV
WELL NAME	Bailey No. 1, Binbrook 3-3-IV			PERMIT	7041			INIT CLASS	NPW
OPERATOR	Gordon Bailey			TARGET	CLI			CUR STATUS	GP

DRILLING DATA			
CONTRACTOR	Blake Montgomery		
RIG TYPE	CAB	DEPTHS	
CABLE TOP	0.6	KB ELEV	205.7
BOT	141.7	LOGGER	-
ROTRY TOP	-	DRILLER	141.7
BOT	-	DEEP END	-
DRLG FLD	-	PLUG BK	-

DATES	
PERMIT	86-08-25
SPUD	86-09-16
COMPTD	86-11-14
OFFCNF	87-11-14
WRKOVR	-
ABNDND	-

COORDINATES		
NORTH	-	m
SOUTH	631.9	m
EAST	202.0	m
WEST	-	m
LAT	43-06-05	
LONG	79-44-46	

SAMPLES	
TOP	25.0
BOT	141.7
TRAY	7703

INITIAL GAS RECORD

INTERVAL	FLOW	SIP
76.2 - -	-	-
98.8 - 99.4	0.028	758
103.3 - 105.5	0.481	896
129.2 - 130.1	0.425	896
-		
-		

CASING AND TUBING RECORD

DIAM	WEIGHT	SET AT	HOW SET	RECOV
203.2	35.7	26.5	-	-
127.0	19.3	88.7	BHP	

COMPLETION DATA

GAS	0.425	$10^3 m^3/d$
OIL	-	m^3/d
SIP	896	kPa
FORM	Grimsby	
INTRVL	103.3 - 105.5	m
FORM:	Whirlpool	m
INTRVL:	129.2 - 130.1	m
PERF ☐	OPEN HOLE ☐	

REMARKS

INITIAL OIL RECORD

INTERVAL	FLOW	DENSITY
-		
-		
-		
-		
-		

LOGGING RECORD

INTERVAL	TYPE	COMPANY
-		
-		
-		
-		
-		
-		
-		

INITIAL WATER RECORD

INTERVAL	STAT LEV	TYPE
25.3 - -	10.4	FRE
34.1 - -	10.4	SUL
-		
-		
-		
-		

CORING RECORD

INTERVAL	LOCATION	NO.	mm
-			
-			
-			
-			
-			

	GEOLOGICAL CONTACTS	TOP	ELEV	THICK
	KB / LAKE LEVEL	0.0		
	DRIFT / LAKE BOTTOM	0.6		
DEVONIAN	PORT LAMBTON			
	KETTLE POINT			
	HAMILTON			
	MARCELLUS			
	DUNDEE			
	COLUMBUS			
	LUCAS			
	AMHERSTBURG			
	SYLVANIA			
	BOIS BLANC			
	SPRINGVALE			
	ORISKANY			
SILURIAN	BASS ISLANDS			
	G SHALE			
	F SHALE			
	F SALT			
	E CARBONATE			
	D SALT/EQUIVALENT			
	C SHALE			
	B MARKER			
	B EQUIVALENT			
	B SALT			
	B ANHYDRITE			
	A2 CARBONATE			
	A2 SALT			
SILURIAN	A2 ANHYDRITE			
	A1 CARBONATE			
	A1 SALT			
	A1 ANHYDRITE			
	GUELPH	23.8		
	ERAMOSA	34.1		
	GOAT ISLAND	58.6		
	GASPORT/WHARTON	70.7		
	DECEW			
	ROCHESTER	82.9		
	IRONDEQUOIT	93.0		
	REYNALES/FOSSIL HILL	95.0		
	THOROLD	97.5		
	GRIMSBY	100.9		
	CABOT HEAD	113.0		
	MANITOULIN			
	WHIRLPOOL	125.6		
ORDOVICIAN	QUEENSTON	131.0		
	BLUE MOUNTAIN - GEORG. BAY			
	COLLINGWOOD			
	COBOURG			
	VERULAM			
	KIRKFIELD			
	COBOCONK			
	GULL RIVER			
	SHADOW LAKE			
	CAMBRIAN			
	PRECAMBRIAN			

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